

MONTANA-DAKOTA UTILITIES CO.  
BEFORE THE SOUTH DAKOTA PUBLIC UTILITIES COMMISSION  
DOCKET NO. EL23-\_\_\_  
PREPARED DIRECT TESTIMONY OF  
ANN E. BULKLEY

1 **Q1. Please state your name and business address.**

2 A1. My name is Ann E. Bulkley. My business address is One Beacon Street, Suite 2600, Boston,  
3 Massachusetts 02108. I am employed by The Brattle Group. (“Brattle”) as a Principal.

4 **Q2. Please describe your education and experience.**

5 A2. I hold a Bachelor’s degree in Economics and Finance from Simmons College and a  
6 Master’s degree in Economics from Boston University, with more than 25 years of  
7 experience consulting to the energy industry. I have advised numerous energy and utility  
8 clients on a wide range of financial and economic issues with primary concentrations in  
9 valuation and utility rate matters. Many of these assignments have included the  
10 determination of the cost of capital for valuation and ratemaking purposes. I have included  
11 my resume and a summary of testimony that I have filed in other proceedings as Exhibit  
12 No. \_\_\_ (AEB-2), Schedule 1.

13 **Q3. On whose behalf are you submitting this testimony?**

14 A3. I am submitting this testimony before the South Dakota Public Utilities Commission  
15 (“Commission”) on behalf of Montana-Dakota Utilities Co. My testimony addresses the  
16 regulated electric utility operations of Montana-Dakota Utilities Co. in South Dakota  
17 (“Montana-Dakota” or the “Company”).

1     **I.           PURPOSE AND OVERVIEW OF DIRECT TESTIMONY**

2     **Q4.    Please describe the purpose of your testimony.**

3     A4.    The purpose of my Direct Testimony is to present evidence and provide a recommendation  
4           regarding Montana-Dakota’s return on equity (“ROE”) for its electric utility operations in  
5           South Dakota to be used for ratemaking purposes. I also address the appropriateness of the  
6           Company’s proposed capital structure.

7     **Q5.    Are you sponsoring any schedules in support of your Direct Testimony?**

8     A5.    Yes. My analyses and recommendations are supported by the data presented in Exhibit No.  
9           \_\_\_(AEB-2), Schedules 2 through 13, which were prepared by me or under my direction.

10    **Q6.    Please provide a brief overview of the analyses that led to your ROE recommendation.**

11    A6.    I have estimated the cost of equity by applying traditional estimation methodologies to a  
12           proxy group of comparable utilities, including the constant growth form of the Discounted  
13           Cash Flow (“DCF”) model, the Capital Asset Pricing Model (“CAPM”), the Empirical  
14           Capital Asset Pricing Model (“ECAPM”), and a Bond Yield Risk Premium (“BYRP” or  
15           “Risk Premium”) analysis. My recommendation also takes into consideration: (1) the  
16           Company’s small size relative to the proxy group; (2) flotation costs; (3) the Company’s  
17           anticipated capital expenditure requirements; and (4) the Company’s regulatory risk as  
18           compared with the proxy group. Finally, I considered the Company’s capital structure as  
19           compared with the capital structures of the proxy companies. While I do not make specific  
20           adjustments to my ROE recommendation for these factors, I did consider them in the  
21           aggregate when determining where my recommended ROE falls within the range of the  
22           analytical results.

1 **Q7. How is the remainder of your Direct Testimony organized?**

2 A7. The remainder of my testimony is organized as follows:

- 3 • Section II provides a summary of my analyses and conclusions.
- 4 • Section III reviews the regulatory guidelines pertinent to the development of the  
5 cost of capital.
- 6 • Section IV discusses current and projected capital market conditions and the effect  
7 of those conditions on the cost of equity.
- 8 • Section V explains the selection of a proxy group of electric utilities.
- 9 • Section VI describes the analyses and analytical basis for the recommendation of  
10 an appropriate ROE for Montana-Dakota.
- 11 • Section VII provides a discussion of specific regulatory, business and financial  
12 risks that directly affect the ROE to be authorized for the Company in this case.
- 13 • Section VIII addresses the Company's capital structure as compared with the  
14 capital structures of the utility operating company subsidiaries of the proxy group  
15 companies.
- 16 • Section IX presents my conclusions and recommendations.

17 **II. SUMMARY OF ANALYSIS AND CONCLUSIONS**

18 **Q8. Please summarize the key factors considered in your analyses and upon which you**  
19 **base your recommended ROE.**

20 A8. The key factors that I considered in my cost of equity analyses and recommended ROE for  
21 the Company in this proceeding are:

- 22 • The United States Supreme Court's *Hope* and *Bluefield* decisions<sup>1</sup> that established  
23 the standards for determining a fair and reasonable allowed ROE, including  
24 consistency of the allowed return with the returns of other businesses having similar  
25 risk, adequacy of the return to provide access to capital and support credit quality,  
26 and the requirement that the result lead to just and reasonable rates.

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<sup>1</sup> U.S. Supreme Court, *Bluefield Water works & Improvement Company v. Public Service Commission of West Virginia*, 262 U.S. 679, 693 (1923) ("Bluefield"); U.S. Supreme Court, *Federal Power Commission v. Hope Natural Gas Company*, 320 U.S. 591, 603 (1944) ("Hope").

- 1           • The effect of current and projected capital market conditions on ROE estimation  
2           models and on investors' return requirements.
- 3           • The results of several analytical approaches that provide estimates of the  
4           Company's cost of equity. Because the Company's required COE should be a  
5           forward-looking estimate, these analyses rely on forward-looking inputs and  
6           assumptions (e.g., projected analyst growth rates in the DCF model, forecasted risk-  
7           free rate and Market Risk Premium in the CAPM analysis, etc.)
- 8           • Although the companies in my proxy group are generally comparable to Montana-  
9           Dakota, each company is unique, and no two companies have the exact same  
10          business and financial risk profiles. Accordingly, I considered the Company's  
11          regulatory, business, financial and regulatory risks relative to the proxy group of  
12          comparable companies in determining an appropriate ROE for the Company over  
13          the period during which rates will be in effect.

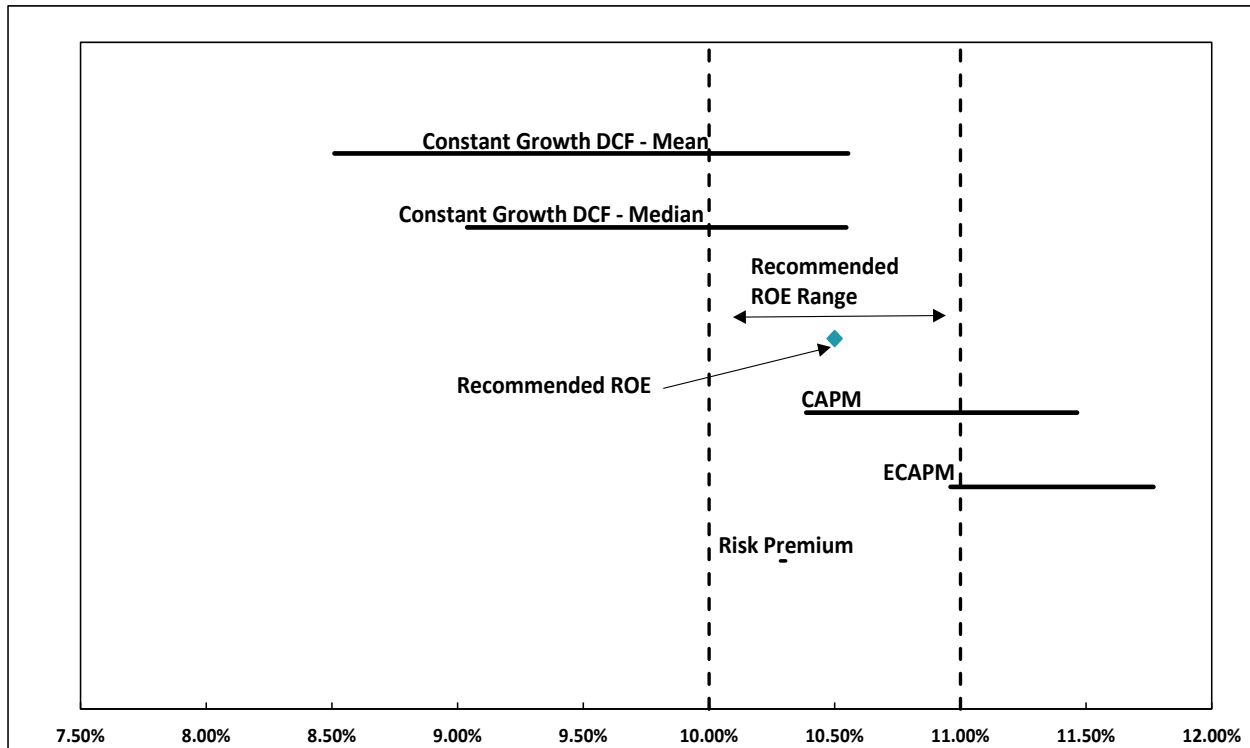
14 **Q9. What are the results of the models that you have used to estimate the cost of equity**  
15 **for Montana-Dakota?**

16 A9. Figure 1 summarizes the range of results produced by the Constant Growth DCF, CAPM,  
17 ECAPM, and Bond Yield Risk Premium analyses.<sup>2</sup>

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<sup>2</sup> The cost of equity model results are also summarized in Exhibit No. \_\_\_\_ (AEB-2), Schedule 2.

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**Figure 1: Summary of Cost of Equity Analytical Results**

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4 As shown in Figure 1 (and in Exhibit No. \_\_\_ (AEB-2), Schedule 2), the range of results

5 produced by the COE estimation models is wide. While it is common to consider multiple

6 models to estimate the cost of equity, it is particularly important when the range of results

7 varies considerably across methodologies. As a result, my ROE recommendation considers

8 the range of results of the Constant Growth DCF model, as well as the results of the CAPM,

9 ECAPM, and Bond Yield Plus Risk Premium analyses. My ROE recommendation also

10 considers Montana-Dakota's company-specific risk factors and current and prospective

11 capital market conditions.

1 **Q10. Why is it important to consider prospective capital market conditions in setting the**  
2 **ROE in this proceeding?**

3 A10. Capital market conditions are expected to affect the results of the cost of equity estimation  
4 models. Specifically:

- 5 • Inflation is expected to persist over the near-term, which increases the operating  
6 risk of the utility during the period in which rates will be in effect.
- 7 • Long-term interest rates have increased substantially in the past year and are  
8 expected to remain relatively high at least over the near-term in response to  
9 inflation.
- 10 • Since utility dividend yields are now less attractive than the risk-free rates of  
11 government bonds, and interest rates are expected to remain near current levels over  
12 the next year, it is likely that utility share prices will decline.
- 13 • Rating agencies have responded to the risks of the utility sector, with Moody's  
14 Investors Service ("Moody's") most recently indicating its outlook for the industry  
15 in 2023 is "negative," citing factors such as interest rates and inflation that create  
16 pressure for customer affordability and prompt rate recovery.
- 17 • Similarly, equity analysts have noted the increased risk for the utility sector as a  
18 result of increases in interest rates and expect the sector to underperform over the  
19 near-term.
- 20 • Consequently, the results of the DCF model, which relies on current utility share  
21 prices, is likely to understate the cost of equity during the period that the Company's  
22 rates will be in effect.

23 It is appropriate to consider all of these factors when estimating a reasonable range of the  
24 investor-required cost of equity and the recommended ROE for Montana-Dakota.

25 **Q11. What is your recommended ROE for Montana-Dakota in this proceeding?**

26 A11. Considering the analytical results presented in Figure 1, current and prospective capital  
27 market conditions, and the Company's regulatory, business, and financial risk relative to  
28 the proxy group, I conclude that an ROE in the range of 10.00 percent to 11.00 percent is  
29 reasonable, and within that range, I recommend an ROE of 10.50 percent.

1 **Q12. Is the Company's requested capital structure reasonable?**

2 A12. Yes. The Company's proposed equity ratio of 50.392 percent is within the range of equity  
3 ratios for the utility operating subsidiaries of the proxy group companies. Further, the  
4 Company's proposed equity ratio is reasonable considering the credit rating agencies  
5 concerns regarding the negative effect on the cash flows and credit metrics associated with  
6 increasing interest rates, inflation and commodity costs, and the pressure that those factors  
7 place on customer affordability and utilities' prompt rate recovery.

8 **III. REGULATORY GUIDELINES**

9 **Q13. Please describe the guiding principles to be used in establishing the cost of equity for**  
10 **a regulated utility.**

11 A13. The United States Supreme Court's precedent-setting *Hope and Bluefield* cases established  
12 the standards for determining the fairness or reasonableness of a utility's allowed ROE.  
13 Among the standards established by the Court in those cases are: (1) consistency with other  
14 businesses having similar or comparable risks; (2) adequacy of the return to support credit  
15 quality and access to capital; and (3) the principle that the result reached, as opposed to the  
16 methodology employed, is the controlling factor in arriving at just and reasonable rates.<sup>3</sup>

17 **Q14. Has the Commission provided similar guidance in establishing the appropriate return**  
18 **on common equity?**

19 A14. Yes, it has. In Docket No. EL11-019 for Northern States Power Company, the Commission  
20 stated that:

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<sup>3</sup> *Hope*, 320 U.S. 591 (1944); *Bluefield*, 262 U.S. 679 (1923).

1 Determining a reasonable ROE rests primarily on sound judgment looking  
 2 at the overall results of the analysis. Under SDCL 49-34A-8 and relevant  
 3 case law, rates set in this proceeding must be just and reasonable. *Federal*  
 4 *Power commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944).

5 The just and reasonable test focuses on whether the "total effect of the rate  
 6 order [is] unreasonable." *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 310  
 7 (1989). Under the just and reasonable test "it is the result reached, not the  
 8 method employed that is controlling" and "the impact of the rate order  
 9 which counts." *Hope, supra*, at 602. The South Dakota Supreme Court  
 10 recognized that rates that do not yield a fair return are unreasonable. *In Re*  
 11 *Northwestern Bell*, 43 N.W.2d 553, 555 (S.D. 1950). The rate of a return  
 12 must be "commensurate with returns on other investments of corresponding  
 13 risks" and "be sufficient ... to attract capital." *Northwestern Public Service*  
 14 *v. Cities of Chamberlain et al*, 265 N.W.2d 867, 873 (S.D. 1978).

15 "The ratemaking process under the Act, i.e. the fixing of 'just and  
 16 reasonable' rates, involves a balancing of the investor and the consumer  
 17 interests." *Hope, supra*, at 603. "Regulation may, consistently with the  
 18 Constitution, limit stringently the return recovered on investment, for  
 19 investors' interests provide only one of the variables in the constitutional  
 20 calculus of reasonableness." *Permian Basin Area Rate Cases*, 390 U.S. 747,  
 21 769 (1968).<sup>4</sup>

22 This guidance is in accordance with my view that an allowed rate of return must be  
 23 sufficient to enable regulated companies, like Montana-Dakota, the ability to attract capital  
 24 on reasonable terms.

25 **Q15. Why is it important for a utility to be allowed the opportunity to earn an ROE that is**  
 26 **adequate to attract capital at reasonable terms?**

27 A15. An ROE that is adequate to attract capital at reasonable terms enables the Company to  
 28 continue to provide safe, reliable electric service while maintaining its financial integrity.

29 That return should be commensurate with returns expected elsewhere in the market for

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<sup>4</sup> Docket No. EL11-019, The Mater of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order, (Jul. 2, 2012), at 4.



1 investments of equivalent risk. If it is not, debt and equity investors will seek alternative  
2 investment opportunities for which the expected return reflects the perceived risks, thereby  
3 inhibiting the Company's ability to attract capital at reasonable cost.

4 **Q16. Is a utility's ability to attract capital also affected by the ROEs authorized for other**  
5 **utilities?**

6 A16. Yes. Utilities compete directly for capital with other investments of similar risk, which  
7 include other electric, natural gas, and water utilities. Therefore, the ROE authorized for a  
8 utility sends an important signal to investors regarding whether there is regulatory support  
9 for financial integrity, dividends, growth, and fair compensation for business and financial  
10 risk. The cost of capital represents an opportunity cost to investors. If higher returns are  
11 available elsewhere for other investments of comparable risk over the same time-period,  
12 investors have an incentive to direct their capital to those alternative investments. Thus,  
13 an authorized ROE significantly below authorized ROEs for other electric, natural gas, and  
14 water utilities can inhibit the utility's ability to attract capital for investment.

15 While Montana-Dakota is committed to investing the required capital to provide safe and  
16 reliable service, because Montana-Dakota is a subsidiary of MDU Resources, the Company  
17 competes with the other MDU Resources subsidiaries for discretionary investment capital.  
18 In determining how to allocate its finite discretionary capital resources, it would be  
19 reasonable for MDU Resources to consider the authorized ROE of each of its subsidiaries.

1 **Q17. Is the regulatory framework and the authorized ROE and equity ratio important to**  
2 **the financial community?**

3 A17. Yes. The regulatory framework is one of the most important factors in debt and equity  
4 investors' assessments of risk. Specifically regarding debt investors, credit rating agencies  
5 consider the authorized ROE and equity ratio for regulated utilities to be very important  
6 for two reasons: (1) they help determine the cash flows and credit metrics of the regulated  
7 utility; and (2) they provide an indication of the degree of regulatory support for credit  
8 quality in the jurisdiction. To the extent that the authorized returns in a jurisdiction are  
9 lower than the returns that have been authorized more broadly, credit rating agencies will  
10 consider this in the overall risk assessment of the regulatory jurisdiction in which the  
11 company operates. Not only do credit ratings affect the overall cost of borrowing, they  
12 also act as a signal to equity investors about the risk of investing in the equity of a company.

13 **Q18. What is the standard for setting the ROE in any jurisdiction?**

14 A18. The stand-alone ratemaking principle is the foundation of jurisdictional ratemaking. This  
15 principle requires that the rates that are charged in any operating jurisdiction be for the  
16 costs incurred in that jurisdiction. The stand-alone ratemaking principle ensures that  
17 customers in each jurisdiction only pay for the costs of the service provided in that  
18 jurisdiction, which is not influenced by the business operations in other operating  
19 companies. In order to maintain this principle, the COE analysis is performed for an  
20 individual operating company as a stand-alone entity. As such, I have evaluated the  
21 investor-required return for Montana-Dakota's electric operations in South Dakota.

1 **Q19. What are your conclusions regarding regulatory guidelines?**

2 A19. The ratemaking process is premised on the principle that, in order for investors and  
3 companies to commit the capital needed to provide safe and reliable utility services, a  
4 utility must have a reasonable opportunity to recover the return of, and the market-required  
5 return on, its invested capital. Accordingly, the Commission's order in this proceeding  
6 should establish rates that provide the Company with a reasonable opportunity to earn a  
7 ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its  
8 financial integrity; and (3) commensurate with returns on investments in enterprises with  
9 similar risk. It is important for the ROE authorized in this proceeding to take into  
10 consideration current and projected capital market conditions, as well as investors'  
11 expectations and requirements for both risks and returns. Because utility operations are  
12 capital-intensive, regulatory decisions should enable the utility to attract capital at  
13 reasonable terms under a variety of economic and financial market conditions. Providing  
14 the opportunity to earn a market-based cost of capital supports the financial integrity of the  
15 Company, which is in the interest of both customers and shareholders.

16 **IV. CAPITAL MARKET CONDITIONS**

17 **Q20. Why is it important to analyze capital market conditions?**

18 A20. The models used to estimate the cost of equity rely on market data that are specific either  
19 to the proxy group, in the case of the DCF model, or to the expectations of market risk, in  
20 the case of the CAPM. The results of the cost of equity estimation models can be affected  
21 by prevailing market conditions at the time the analysis is performed. While the ROE  
22 established in a rate proceeding is intended to be forward-looking, the analyst uses current

1 and projected market data, specifically stock prices, dividends, growth rates, and interest  
2 rates, in the cost of equity estimation models to estimate the investor-required return for  
3 the subject company.

4 Analysts and regulatory commissions recognize that current market conditions affect the  
5 results of the cost of equity estimation models. As a result, it is important to consider the  
6 effect of the market conditions on these models when determining an appropriate range for  
7 the ROE and the recommended ROE for ratemaking purposes for a future period. If  
8 investors do not expect current market conditions to be sustained in the future, it is possible  
9 that the cost of equity estimation models will not provide an accurate estimate of investors'  
10 required return during that rate period. Therefore, it is very important to consider projected  
11 market data to estimate the return for that forward-looking period.

12 **Q21. What factors are affecting the cost of equity for regulated utilities in the current and**  
13 **prospective capital markets?**

14 A21. The cost of equity for regulated utility companies is affected by several factors in the  
15 current and prospective capital markets, including: (1) changes in monetary policy; (2) high  
16 inflation; and (3) increased interest rates that are expected to remain relatively high over  
17 the next few years. These factors affect the assumptions used in the cost of equity  
18 estimation models.

19 **Q22. What effect do current and prospective market conditions have on the cost of equity**  
20 **for Montana-Dakota?**

21 A22. As is discussed in more detail in the remainder of this section, the combination of  
22 persistently high inflation and the Federal Reserve's changes in monetary policy contribute

1 to an expectation of increased market risk and an increase in the cost of the investor-  
2 required return. These factors must be considered in setting a forward-looking ROE.  
3 Inflation has recently been at some of the highest levels seen in approximately 40 years,  
4 and while inflation has declined from these recent peaks, it remains relatively high. Interest  
5 rates, which have increased from the pandemic lows seen in 2020 in direct response to the  
6 Federal Reserve's monetary policy, are expected to remain near current levels over the next  
7 year. Since there is a strong historical inverse correlation between interest rates (i.e., yields  
8 on long-term government bonds) and the share prices of utility stocks (i.e., share prices of  
9 utility stocks typically fall when interest rates rise and vice versa) and the yields on long-  
10 term government bonds currently exceed the dividend yields of utilities when historically  
11 long-term government bond yields have been lower than the dividend yields of utilities, it  
12 is reasonable to expect that utility investors' required return is increasing. Therefore, as  
13 explained in further detail below, cost of equity estimates based solely on current market  
14 conditions will understate the cost of equity required by investors during the future period  
15 that the Company's rates determined in this proceeding will be in effect.

16 **A. Inflationary Expectations in Current and Projected Capital Market**  
17 **Conditions**

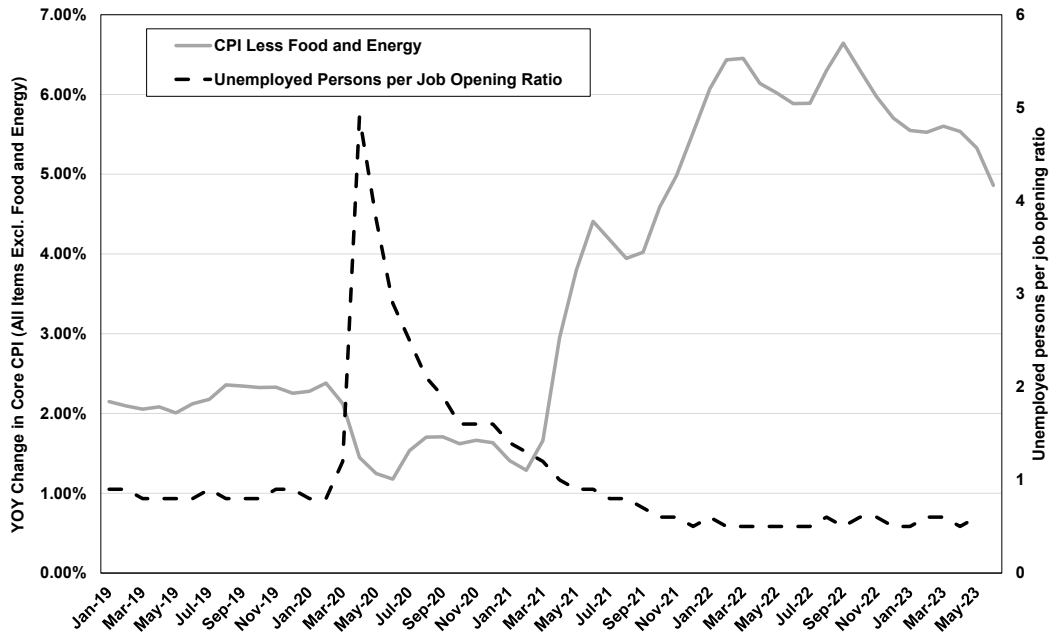
18 **Q23. Has inflation increased significantly over the past year?**

19 A23. Yes. Figure 2 presents the year-over-year ("YOY") change in core inflation as measured  
20 by the Consumer Price Index ("CPI") excluding food and energy prices as published by  
21 the Bureau of Labor Statistics. I considered core inflation because it is the preferred  
22 inflation indicator of the Federal Reserve for determining the direction of monetary policy.  
23 Core inflation is preferred by the Federal Reserve since it removes the effect of food and

1 energy prices, which can be highly volatile. As shown in Figure 2, core inflation increased  
2 steadily beginning in early 2021, rising from 1.41 percent in January 2021 to a high of 6.64  
3 percent in September 2022, which was the largest 12-month increase since 1982. Since  
4 that time, while core inflation has declined in response to the Federal Reserve's monetary  
5 policy, core inflation continues to remain above the Federal Reserve's target level of 2.0  
6 percent.

7 Finally, as shown in Figure 2, I also considered the ratio of unemployed persons per job  
8 opening which is currently 0.6 and has been consistently below 1.0 since 2021 despite the  
9 Federal Reserve's accelerated policy normalization. This metric indicates sustained  
10 strength in the labor market. Given the Federal Reserve's dual mandate of maximum  
11 employment and price stability, the continued increased levels of core inflation coupled  
12 with the strength in the labor market has resulted in the Federal Reserve's sustained focus  
13 on the priority of reducing inflation.

1 **Figure 2: Core Inflation and Unemployed Persons-to-Job Openings, January 1919 to June**  
 2 **2023<sup>5</sup>**



3

4 **Q24. What are the expectations for inflation over the near term?**

5 A24. The Federal Reserve has indicated that it expects inflation will remain elevated above its  
 6 target level over at least the next year and that monetary policy will remain restrictive in  
 7 order to reduce inflation. For example, Federal Reserve Chair Powell at the Federal Open  
 8 Market Committee (“FOMC”) meeting in July 2023 observed that while inflation is off of  
 9 its recent highs, it remains significantly above the Federal Reserve’s long-term target and  
 10 noted that further policy firming is possible including additional increases in the federal  
 11 funds rate:

12 So, I'll just say again, the broader picture of what we want to see is we want  
 13 to see easing of supply constraints and normalization of pandemic related  
 14 distortions to demand and supply, we want to see economic growth running  
 15 at moderate or modest levels to help ease inflationary pressures, we want to  
 16 see continued restoration of supply and demand balance, particularly in the

<sup>5</sup> Bureau of Labor Statistics.

1 labor market, and all of that should lead to declining inflationary pressures.  
2 What we see is we see those pieces of the puzzle coming together and we're  
3 seeing evidence of those things now, but I would say that what our eyes are  
4 telling us is that policy has not been restrictive enough for long enough to  
5 have its full desired effects. So we intend, again, to keep policy restrictive  
6 until we're confident that inflation is coming down sustainably to our 2  
7 percent target, and we're prepared to further tighten if that is appropriate.  
8 And we think the process, you know, still probably has a long way to go.<sup>6</sup>

9 Chair Powell also continued to reiterate that “[r]educing inflation is likely to require a  
10 period of below-trend growth and some softening in labor market conditions.”<sup>7</sup>

## 11 B. The Use of Monetary Policy to Address Inflation

12 **Q25. What policy actions has the Federal Reserve enacted to respond to increased**  
13 **inflation?**

14 A25. The dramatic increase in inflation has prompted the Federal Reserve to pursue an  
15 aggressive normalization of monetary policy, removing the accommodative policy  
16 programs used to mitigate the economic effects of COVID-19. Since the March 2022  
17 meeting, the Federal Reserve increased the target federal funds rate through a series of  
18 increases from 0.00 – 0.25 percent to 5.25 percent to 5.50 percent.<sup>8</sup> Further, as noted above,  
19 while the Federal Reserve acknowledges that inflation has declined from its peak, it still is  
20 well above the Federal Reserve’s target of 2 percent. Therefore, the Federal Reserve  
21 anticipates the continued need to maintain the federal funds rate at a restrictive level in  
22 order to achieve its goal of 2 percent inflation over the long-run.

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<sup>6</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, July 26, 2023, p 11.

<sup>7</sup> Federal Reserve, Transcript of Chair Powell’s Press Conference, July 26, 2023, p 3.

<sup>8</sup> Federal Reserve, Press Releases, March 16, 2022, May 4, 2022, June 15, 2022, September 22, 2022, November 2, 2022, February 1, 2023, March 22, 2023, and May 3, 2023.

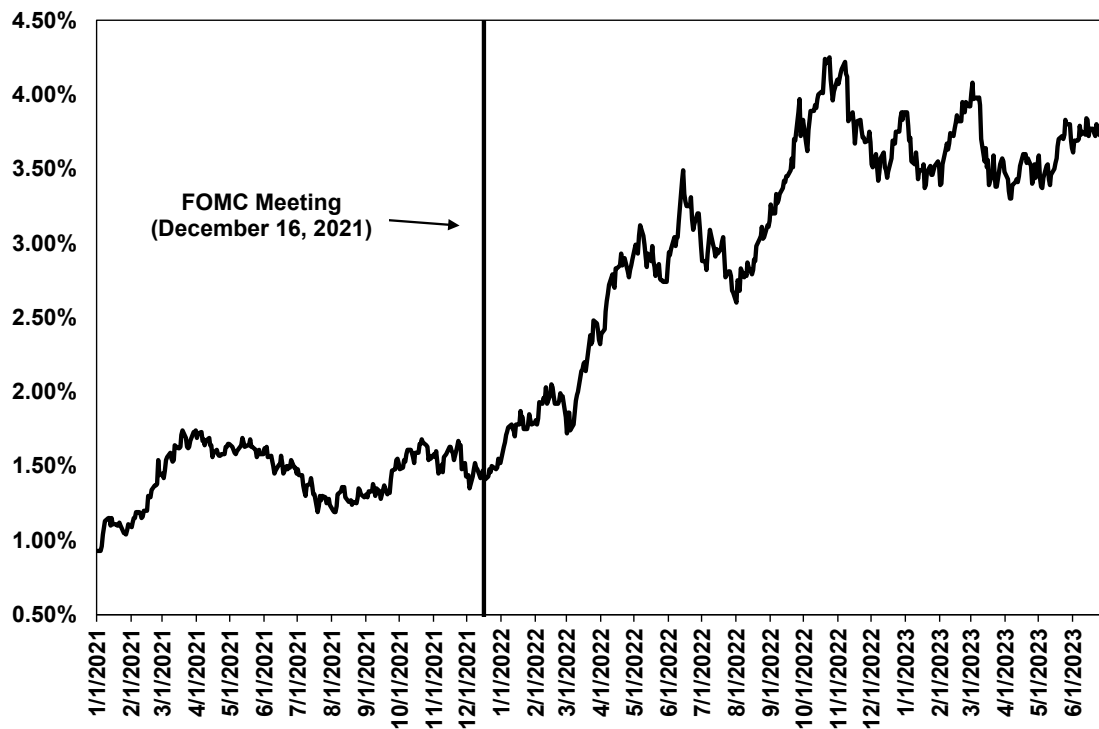


1                   **C. The Effect of Inflation and Monetary Policy on Interest Rates and the**  
 2                   **Investor-Required Return**

3   **Q26. How have the yields on long-term government bonds increased in response to**  
 4   **inflation and the Federal Reserve’s normalization of monetary policy?**

5   A26. As the Federal Reserve has substantially increased the federal funds rate in response to  
 6   increased levels of inflation that have persisted for longer than originally projected, longer  
 7   term interest rate have also increased. As shown in Figure 3, since the Federal Reserve’s  
 8   December 2021 meeting, the yield on 10-year Treasury bonds has more than doubled,  
 9   increasing from 1.47 percent on December 15, 2021, to 3.81 percent on June 30, 2023.

10                   **Figure 3: 10-Year Treasury Bond Yield, January 2021– June 2023<sup>9</sup>**



11

<sup>9</sup> S&P Capital IQ Pro.

1 **Q27. What have equity analysts said about long-term government bond yields?**

2 A27. Leading equity analysts have noted that they expect the yields on long-term government  
3 bonds to remain elevated through at least the end of 2024. According to the most recent  
4 *Blue Chip Financial Forecasts* report, the consensus estimate of the average yield on the  
5 10-year Treasury bond is approximately 3.50 percent through the fourth quarter of 2024.<sup>10</sup>  
6 It is reasonable to expect that if government bond yields remain elevated the cost of equity  
7 will be increasing above the levels experienced in the 2020 and 2021 lower interest rate  
8 environment.

9 **Q28. How have interest rates and inflation changed since the Company's last rate case?**

10 A28. As shown in Figure 4, when the Commission approved the settlement agreement in the  
11 Company's 2015 rate proceeding, interest rates (as measured by the 30-year Treasury bond  
12 yield) were 2.58 percent and core inflation was 2.26 percent. However, since the  
13 Company's last rate proceeding, long-term interest rates have increased by over 100 basis  
14 points, and inflation is significantly higher.

15 **Figure 4: Change in Market Conditions Since Montana-Dakota's Last Rate Case<sup>11</sup>**

Docket	Decision Date	Federal Funds Rate	30-Day Average of 30-Year Treasury Bond Yield	Core Inflation Rate
EL15-024	6/15/2016	0.37%	2.58%	2.26%
Current	6/30/2023	5.08%	3.89%	4.86%

16

<sup>10</sup> *Blue Chip Financial Forecasts*, Vol. 42, No. 7, June 30, 2023, p. 2.

<sup>11</sup> St. Louis Federal Reserve Bank; Bureau of Labor Statistics.

1                   **D. Expected Performance of Utility Stocks and the Investor-Required Return**  
2                   **on Utility Investments**

3 **Q29. Are utility share prices correlated to changes in the yields on long-term government**  
4 **bonds?**

5 A29. Yes. Interest rates and utility share prices are inversely correlated, which means that  
6 increases in interest rates result in declines in the share prices of utilities and vice versa.  
7 For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices  
8 of different industries to changes in interest rates over the past five years. Both Goldman  
9 Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships  
10 with bond yields (*i.e.*, increases in bond yields resulted in the decline of utility share  
11 prices).<sup>12</sup>

12 **Q30. How do equity analysts expect the utility sector to perform in an increasing interest**  
13 **rate environment?**

14 A30. Equity analysts project that utilities will underperform the broader market given high  
15 inflation and the recent increases in interest rates. Fidelity classifies the utility sector as  
16 underweight,<sup>13</sup> and Keybank Capital Markets analyst Sophie Karp recently noted she had  
17 a negative view of the sector in 2023 and expects a decline in the relative valuation of the  
18 utilities sector as compared to the S&P 500:

19                   The utility sector’s relative outperformance came on the back of the pre-  
20 recessionary environment in the U.S. in 2022, analyst Karp said. She noted  
21 that the sector now traded at a 2.8 times premium to the S&P 500 Index,  
22 which is relatively wide by historical standards.

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<sup>12</sup> Lee, Justina. “Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks.” Bloomberg.com, March 11, 2021.

<sup>13</sup> Fidelity. “Third Quarter 2023 Investment Research Update.” July 24, 2023.

1 She said the utility sector is relatively overvalued and will see a mean  
2 reversion in 2023, adding that the last time such a premium over the S&P  
3 500 Index happened was in 2004.

4 “We are therefore negative on the sector overall going into 2023 and our  
5 OW picks grow fewer,” Karp said

6 There has been a surprising deterioration of the regulatory environment  
7 across multiple jurisdictions, including the historically stronger ones, she  
8 noted. Some regulatory developments, according to the analyst, are driven  
9 by the regulator’s desire to moderate the impact on customer bills. “Given  
10 that power and commodity prices remain elevated, we expect to continue  
11 seeing regulators getting 'creative' with assumptions and rate mechanisms  
12 to achieve that goal,” she added.

13 Karp said she would focus on rate affordability, as inflationary pressures  
14 will likely be a factor for the foreseeable future.

15 “As we turn to 2023, we believe that the sector will find it difficult to defend  
16 this relative valuation position, particularly as macro headwinds persist and  
17 begin to take a toll on utility earnings,” she added.<sup>14</sup>

18 **Q31. Why do equity analysts expect the utility sector to underperform over the near-term?**

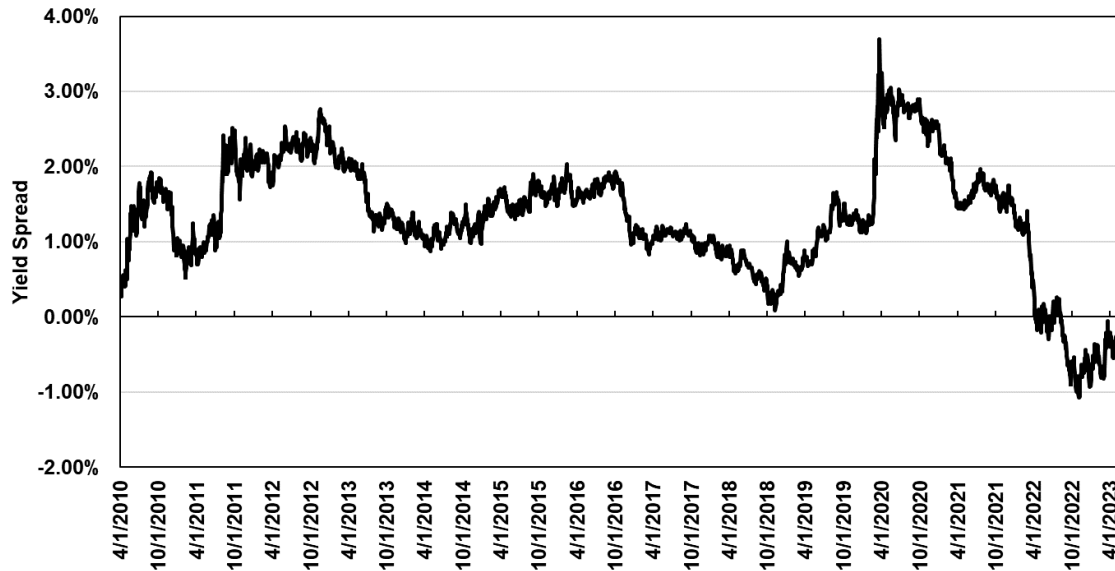
19 A31. While interest rates have increased substantially over the past year, the valuations of  
20 utilities have remained elevated and have not fully reflected the effect of the recent increase  
21 in interest rates. To illustrate this point, I examined the difference between the dividend  
22 yields of utility stocks and the yields on long-term government bonds from January 2010  
23 through June 2023 (“yield spread”). I selected the dividend yield on the S&P Utilities  
24 Index as the measure of the dividend yields for the utility sector and the yield on the 10-  
25 year Treasury bond as the estimate of the yield on long-term government bonds. As shown  
26 in Figure 5, the recent significant increase in long-term government bonds yields has  
27 resulted in the yield on long-term government bonds exceeding the dividend yields of

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<sup>14</sup> Market Insider. “After A 'Good Run' For Utilities In 2022, Analyst Says 'Trade Is Over – For Now,' But Retains Bullish Bias On These Stocks”, January 17, 2023. (emphasis added).

1 utilities. The yield spread as of June 30, 2023 was negative 0.53 percent. However, the  
 2 long-term average yield spread from 2010 to 2023 is 1.30 percent. Therefore, the current  
 3 yield spread is well below the long-term average.

4 **Figure 5: Spread between the S&P Utilities Index Dividend Yield and the 10-year**  
 5 **Treasury Bond Yield, January 2010 – June 2023<sup>15</sup>**



6  
 7 For further context as to how unlikely it is to have a yield spread of negative 0.53 percent,  
 8 I calculated the z-score for the current yield spread, which measures the number of standard  
 9 deviations from the mean. The current yield spread of negative 0.53 percent has a z-score  
 10 of -2.05, a yield spread of negative 0.53 percent is over 2 standard deviations from the  
 11 mean of 1.30 percent.<sup>16</sup> In other words, 95 percent of the daily yield spread observations  
 12 from 2010 through June 2023 fall between -0.28 percent and 2.88 percent, with the current

<sup>15</sup> S&P Capital IQ Pro and Bloomberg Professional.

<sup>16</sup> The z-score is calculated as: (yield spread at June 30, 2023 minus average yield spread 2010 through June 2023)/standard deviation of yield spread from 2010 through June 2023. This equals: (-0.53 minus 1.30)/0.0079.

1 yield spread of negative 0.53 percent being outside of that range. Thus, the current yield  
2 spread is an outlier, which is why equity analysts do not expect this current level to hold.

3 Since long-term bond yields are expected to remain elevated at current levels over the near-  
4 term, equity analysts expect utilities to underperform, and thus the dividend yields for  
5 utilities will increase. This is because investors that purchased utility stocks as an  
6 alternative to the lower yields on long-term government bonds would otherwise be inclined  
7 to rotate back into government bonds, particularly as the yields on long-term government  
8 bonds remain elevated, thus resulting in a decrease in the share prices of utilities.

#### 9 **E. Conclusion**

10 **Q32. What are your conclusions regarding the effect of current market conditions on the**  
11 **cost of equity for Montana-Dakota?**

12 A32. Investors expect long-term interest rates to remain relatively high through 2024, in  
13 response to continued elevated levels of inflation and the Federal Reserve's normalization  
14 of monetary policy. Because the share prices of utilities are inversely correlated to interest  
15 rates, and government bond yields are already greater than utility stock dividend yields, the  
16 share prices of utilities are likely to continue to decline, which is the reason a number of  
17 equity analysts have classified the sector as either underperform or underweight. The  
18 expected underperformance of utilities means that DCF models using recent historical data  
19 likely underestimate investors' required return over the period that rates will be in effect.  
20 Therefore, this expected change in market conditions supports consideration of the higher  
21 end of the range of cost of equity results produced by the DCF models. Moreover,  
22 prospective market conditions warrant consideration of forward-looking cost of equity

1 estimation models such as the CAPM and ECAPM, which more directly reflect changes in  
2 interest rates and the investor-required return on equity.

3 **V. PROXY GROUP SELECTION**

4 **Q33. Please provide a brief profile of Montana-Dakota.**

5 A33. Montana-Dakota Utilities Co. is a wholly owned subsidiary of MDU Resources. It  
6 provides regulated retail natural gas and/or electric service to parts of Montana, North  
7 Dakota, South Dakota, and Wyoming. The Company provides electric service to  
8 approximately 8,500 customers in South Dakota.<sup>17</sup> As of December 31, 2022, the  
9 Company's net utility electric plant in South Dakota was approximately \$73.66 million.<sup>18</sup>  
10 In addition, the Company had total electric sales in South Dakota in 2022 of approximately  
11 143,559 MWh.<sup>19</sup> For the Company's parent entity, MDU Resources, South Dakota  
12 accounted for 5 percent of its total electric retail sales revenue in 2022, while the North  
13 Dakota operations were 65 percent, Montana was 21 percent, and Wyoming was 9  
14 percent.<sup>20</sup> Montana-Dakota Utilities Co. currently has an investment-grade long-term  
15 rating of BBB+ (Outlook: Developing) from S&P<sup>21</sup> and BBB+ (Outlook: Stable) from  
16 Fitch.<sup>22</sup>

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<sup>17</sup> Company provided data.

<sup>18</sup> Company provided data.

<sup>19</sup> Company provided data.

<sup>20</sup> MDU Resources Group, Inc. Form 10-K for the fiscal year ended December 31,2022, at 11-12.

<sup>21</sup> Source: S&P Capital IQ Pro, (accessed July 14, 2023).

<sup>22</sup> Source: FitchRatings, (accessed July 14, 2023).

1 **Q34. Why have you used a group of proxy companies to estimate the cost of equity for the**  
2 **Company?**

3 A34. In this proceeding, I focus on estimating the cost of equity for Montana-Dakota, a rate-  
4 regulated subsidiary of MDU Resources. Because the cost of equity is a market-based  
5 concept and because Montana-Dakota's operations do not make up the entirety of a  
6 publicly traded entity, it is necessary to establish a group of companies that is both publicly  
7 traded and comparable to the Company in certain fundamental business and financial  
8 respects to serve as its "proxy" in the ROE estimation process.

9 Even if Montana-Dakota was a publicly traded entity, it is possible that transitory events  
10 could bias its market value over a given period. A significant benefit of using a proxy  
11 group is that it moderates the effects of unusual events that may be associated with any one  
12 company. The proxy companies used in my analyses all possess a set of operating and risk  
13 characteristics that are substantially comparable to the Company, and thus provide a  
14 reasonable basis to derive and estimate the appropriate ROE for the Company.

15 **Q35. How did you select the companies included in your proxy group?**

16 A35. I began with the group of 36 publicly traded companies that Value Line classifies as  
17 Electric Utilities and applied screening criteria to select a group of risk-comparable  
18 companies as follows:

- 19
- 20 • pay consistent quarterly cash dividends that have not been reduced in the last three
  - 21 years, since companies that do not pay dividends cannot be analyzed using the
  - 22 constant growth DCF model;
  - 23 • have investment grade long-term issuer ratings from both S&P and Moody's;
  - have positive long-term earnings growth forecasts from at least two equity analysts;



- 1 • own generation assets included in rate base;
- 2 • have more than 40 percent of company-owned generation;
- 3 • derive more than 60 percent of total operating income from regulated operations;
- 4 • derive more than 80 percent of their total regulated operating income from
- 5 regulated electric operations; and
- 6 • were not party to a merger or transformative transaction during the analytical period
- 7 considered.

8 **Q36. Did you exclude any other companies from the proxy group?**

9 A36. Yes. I excluded OGE Energy Corporation (“OGE”) and Hawaiian Electric Industries, Inc.  
10 (“HE”). While OGE is comparable based on my screening criteria, I excluded OGE on the  
11 basis that there was a large discrepancy in the projected EPS growth rates from a negative  
12 growth rate reported by Yahoo! Finance to a growth rate of 17.90 percent reported by Zacks.  
13 This significant discrepancy makes the use of a mean growth rate, or the consideration of  
14 the high and low growth rates impractical for a long-term analysis. Therefore, this company  
15 has been excluded at this time.

16 I excluded HE on the basis that its operations are concentrated on the islands of Hawaii,  
17 and therefore, the company faces geographic concentration risk for both its regulated and  
18 substantial unregulated operations not applicable to the other utilities considered.  
19 Specifically, as HE noted in the company’s 2022 Form 10-K:

20 The Company is subject to the risks associated with the geographic  
21 concentration of its businesses and current lack of interconnections that  
22 could result in service interruptions at the Utilities or higher default rates on  
23 loans held by ASB [American Savings Bank].<sup>23</sup>

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<sup>23</sup> Hawaii Electric Industries, Inc., 2022 Form 10-K, at 22.

1 The increased risk of service interruptions resulting from HE’s geographic location, which  
2 could result in revenue loss and increased costs is a risk unique to HE and would not apply  
3 to utilities located on the U.S. mainland. Furthermore, HE’s unregulated operations, which  
4 represent approximately 27 percent of the company’s operating income in 2022 are  
5 concentrated in the banking sector through the ownership of American Savings Bank  
6 (“ASB”).<sup>24</sup> ASB also only operates on Hawaii; thus, all of the company’s consumer and  
7 commercial loans are to customers on Hawaii. If Hawaii were to face an adverse economic  
8 or political event, ASB could face severe financial effects given the company’s geographic  
9 concentration in Hawaii.<sup>25</sup>

10 **Q37. What is the composition of your proxy group?**

11 A37. The screening criteria discussed above is shown in Exhibit No. \_\_\_ (AEB-2), Schedule 3,  
12 and resulted in a proxy group consisting of the companies shown in Figure 6 below.

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<sup>24</sup> *Id.*, at 87.

<sup>25</sup> *Id.*, at 21-22.

1

**Figure 6: Proxy Group**

<b>Company</b>	<b>Ticker</b>
ALLETE, Inc.	ALE
Alliant Energy Corporation	LNT
Ameren Corporation	AEE
American Electric Power Company, Inc.	AEP
Duke Energy Corporation	DUK
Entergy Corporation	ETR
Evergy, Inc.	EVRG
IDACORP, Inc.	IDA
NextEra Energy, Inc.	NEE
NorthWestern Corporation	NWE
Pinnacle West Capital Corporation	PNW
Portland General Electric Company	POR
Xcel Energy Inc.	XEL

2

3 **Q38. Do your screening criteria result in a proxy group that is risk comparable to**  
4 **Montana-Dakota?**

5 A38. Yes, they do. The overall purpose of developing a set of screening criteria is to select a  
6 proxy group of companies that align with the financial and operational characteristics of  
7 Montana-Dakota and that investors would view as comparable to the Company. I  
8 developed the screens and thresholds for each screen based on judgment with the intention  
9 of balancing the need to maintain a proxy group that is of sufficient size with establishing  
10 a proxy group of companies that are comparable in business and financial risk to Montana-  
11 Dakota. This resulted in the group of 13 companies shown in Figure 6, which have business  
12 and financial risks that are comparable to Montana-Dakota.

1 **VI. COST OF EQUITY ESTIMATION**

2 **Q39. Please briefly discuss the ROE in the context of the regulated rate of return.**

3 A39. The overall rate of return for a regulated utility is the weighted average cost of capital, in  
4 which the cost rates of the individual sources of capital are weighted by their respective  
5 book values. The ROE is the cost of common equity capital in the utility's capital structure  
6 for ratemaking purposes. While the costs of debt and preferred stock can be directly  
7 observed, the cost of equity is market-based and, therefore, must be estimated based on  
8 observable market data.

9 **Q40. How is the required cost of equity determined?**

10 A40. The required cost of equity is estimated by using analytical techniques that rely on market-  
11 based data to quantify investor expectations regarding equity returns, adjusted for certain  
12 incremental costs and risks. Informed judgment is then applied to determine where the  
13 company's cost of equity falls within the range of results produced by multiple analytical  
14 techniques. The key consideration in determining the cost of equity is to ensure that the  
15 methodologies employed reasonably reflect investors' views of the financial markets in  
16 general, as well as the subject company (in the context of the proxy group), in particular.

17 **Q41. What methods did you use to establish your recommended ROE in this proceeding**  
18 **ROE?**

19 A41. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM, and  
20 a Bond Yield Plus Risk Premium analysis. As discussed in more detail below, a reasonable  
21 ROE estimate appropriately considers alternative methodologies and the reasonableness of  
22 their individual and collective results.

1                   **A. Importance of Multiple Analytical Approaches**

2   **Q42. Is it important to use more than one analytical approach?**

3   A42. Yes. Because the cost of equity is not directly observable, it must be estimated based on  
4       both quantitative and qualitative information. When faced with the task of estimating the  
5       cost of equity, analysts and investors are inclined to gather and evaluate as much relevant  
6       data as reasonably can be analyzed. Several models have been developed to estimate the  
7       cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical  
8       matter, however, all the models available for estimating the cost of equity are subject to  
9       limiting assumptions or other methodological constraints. Consequently, many well-  
10      regarded finance texts recommend using multiple approaches when estimating the COE.  
11      For example, Copeland, Koller, and Murrin<sup>26</sup> suggest using the CAPM and Arbitrage  
12      Pricing Theory model, while Brigham and Gapenski<sup>27</sup> recommend the CAPM, DCF, and  
13      Bond Yield Plus Risk Premium approaches.

14   **Q43. Do current market conditions support the reliance on more than one analytical**  
15      **approach?**

16   A43. Yes. As discussed previously, interest rates have increased substantially over the past year  
17      and are expected to remain elevated over at least the next year from the lows seen during  
18      the COVID-19 pandemic. The benefit of using multiple models is that each model relies  
19      on different assumptions, certain of which may better reflect current and projected market  
20      conditions at different times. As discussed previously, the CAPM, ECAPM, and BYRP

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<sup>26</sup> Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.

<sup>27</sup> Eugene Brigham, Louis Gapenski, *Financial Management: Theory and Practice*, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

1 analyses offer some balance through the use of projected interest rates since the effect of  
 2 changes in interest rates, particularly the recent increase in interest rates, may not be  
 3 captured as well in the DCF model at this time. Therefore, it is important to use multiple  
 4 analytical approaches to ensure that the cost of equity results reflect market conditions that  
 5 are expected during the period that the Company's rates will be in effect.

### 6 **B. Constant Growth DCF Model**

#### 7 **Q44. Please describe the DCF approach.**

8 A44. The DCF approach is based on the theory that a stock's current price represents the present  
 9 value of all expected future cash flows. In its most general form, the DCF model is  
 10 expressed as follows:

$$11 \quad P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \dots + \frac{D_\infty}{(1+k)^\infty} \quad [1]$$

12 Where  $P_0$  represents the current stock price,  $D_1 \dots D_\infty$  are all expected future dividends, and  
 13  $k$  is the discount rate, or required ROE. Equation [1] is a standard present value calculation  
 14 that can be simplified and rearranged into the following form:

$$15 \quad k = \frac{D_0(1+g)}{P_0} + g \quad [2]$$

16 Equation [2] is often referred to as the Constant Growth DCF model in which the first term  
 17 is the expected dividend yield and the second term is the expected long-term growth rate.

#### 18 **Q45. What assumptions are required for the Constant Growth DCF model?**

19 A45. The Constant Growth DCF model requires the following four assumptions: (1) a constant  
 20 growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant  
 21 price-to-earnings ("P/E") ratio; and (4) a discount rate greater than the expected growth

1 rate. To the extent that any of these assumptions are violated, considered judgment and/or  
2 specific adjustments should be applied to the results.

3 **Q46. What market data did you use to calculate the dividend yield in your Constant**  
4 **Growth DCF model?**

5 A46. The dividend yield in my Constant Growth DCF model is based on the proxy companies'  
6 current annualized dividend and average closing stock prices over the 30-, 90-, and 180-  
7 trading days ended June 30, 2023.

8 **Q47. Why did you use 30-, 90-, and 180-day averaging periods?**

9 A47. I use an average of recent trading days to calculate the term  $P_0$  in the DCF model to reflect  
10 current market data while also ensuring that the result of the model is not skewed by  
11 anomalous events that may affect stock prices on any given trading day.

12 **Q48. Did you make any adjustments to the dividend yield to account for periodic growth**  
13 **in dividends?**

14 A48. Yes, I did. Because utility companies tend to increase their quarterly dividends at different  
15 times throughout the year, it is reasonable to assume that dividend increases will be evenly  
16 distributed over calendar quarters. Given that assumption, it is reasonable to apply one-half  
17 of the expected annual dividend growth rate for purposes of calculating the expected  
18 dividend yield component of the DCF model. This adjustment ensures that the expected  
19 first-year dividend yield is, on average, representative of the coming twelve-month period,  
20 and does not overstate the aggregated dividends to be paid during that time.

1 **Q49. Why is it important to select appropriate measures of long-term growth in applying**  
2 **the DCF model?**

3 A49. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth  
4 estimate in perpetuity. To reduce the long-term growth rate to a single measure, one must  
5 assume that the payout ratio remains constant and that earnings per share, dividends per  
6 share and book value per share all grow at the same constant rate. Over the long run,  
7 however, dividend growth can only be sustained by earnings growth. Therefore, it is  
8 important to incorporate a variety of sources of long-term earnings growth rates into the  
9 Constant Growth DCF model.

10 **Q50. Which sources of long-term earnings growth rates did you use?**

11 A50. My Constant Growth DCF model incorporates three commonly referenced sources of long-  
12 term earnings growth rates: (1) Zacks Investment Research; (2) Yahoo! Finance; and (3)  
13 Value Line Investment Survey.

14 **Q51. Why are EPS growth rates the appropriate growth rates to be relied on in the DCF**  
15 **model?**

16 A51. Earnings are the fundamental driver of a company's ability to pay dividends; therefore,  
17 projected EPS growth is the appropriate measure of a company's long-term growth. In  
18 contrast, changes in a company's dividend payments are based on management decisions  
19 related to cash management and other factors. For example, a company may decide to  
20 retain earnings rather than pay out a portion of those earnings to shareholders through  
21 dividends. Therefore, dividend growth rates are less likely than earnings growth rates to  
22 reflect accurately investor perceptions of a company's growth prospects.



1 **Q52. How did you calculate the range of results for the Constant Growth DCF Models?**

2 A52. I calculated the low-end result for the constant growth DCF model using the minimum  
3 growth rate of the three sources (i.e., the lowest of the Zacks, Yahoo! Finance, and *Value*  
4 *Line* projected earnings growth rates) for each of the proxy group companies. I used a  
5 similar approach to calculate a high-end result, using the maximum growth rate of the three  
6 sources for each proxy group company. Lastly, I also calculated results using the average  
7 growth rate from all three sources for each proxy group company.

8 **Q53. What were the results of your Constant Growth DCF analyses?**

9 A53. Figure 7 (see also Exhibit No. \_\_\_ (AEB-2), Schedule 4) summarizes the results of my  
10 DCF analyses. As shown in Figure 7, the median and mean DCF results range from 9.50  
11 percent to 9.70 percent, and the median high and mean high results are in the range of 10.45  
12 percent to 10.68 percent. While I also summarize the low DCF results, given the expected  
13 underperformance of utility stocks and thus the likelihood that the DCF model is  
14 understating the COE, I do not believe it is appropriate to consider the low DCF results at  
15 this time.

**Figure 7: Constant Growth Discounted Cash Flow Results**

<i>Constant Growth DCF - Mean</i>			
	<b>Min Growth Rate</b>	<b>Mean Growth Rate</b>	<b>Max Growth Rate</b>
30-Day Average	8.55%	9.70%	10.60%
90-Day Average	8.48%	9.62%	10.52%
180-Day Average	8.50%	9.65%	10.54%
<i>Constant Growth DCF - Median</i>			
	<b>Min Growth Rate</b>	<b>Mean Growth Rate</b>	<b>Max Growth Rate</b>
30-Day Average	9.07%	9.52%	10.68%
90-Day Average	9.03%	9.50%	10.51%
180-Day Average	9.01%	9.63%	10.45%

2  
3 **Q54. Have regulatory commissions acknowledged that the DCF model might understate**  
4 **the cost of equity given the current capital market conditions of high inflation and**  
5 **elevated interest rates?**

6 A54. Yes. For example, in its May 2022 decision establishing the cost of equity for Aqua  
7 Pennsylvania, Inc., the Pennsylvania Public Utility Commission concluded that the current  
8 capital market conditions of high inflation and increased interest rates has resulted in the  
9 DCF model understating the utility cost of equity, and that weight should be placed on risk  
10 premium models, such as the CAPM, in the determination of the ROE:

11 To help control rising inflation, the Federal Open Market Committee has  
12 signaled that it is ending its policies designed to maintain low interest rates.  
13 Aqua Exc. at 9. Because the DCF model does not directly account for  
14 interest rates, consequently, it is slow to respond to interest rate changes.  
15 However, I&E's CAPM model uses forecasted yields on ten-year Treasury  
16 bonds, and accordingly, its methodology captures forward looking changes  
17 in interest rates.

1 Therefore, our methodology for determining Aqua’s ROE shall utilize both  
 2 I&E’s DCF and CAPM methodologies. As noted above, the Commission  
 3 recognizes the importance of informed judgment and information provided  
 4 by other ROE models. In the 2012 PPL Order, the Commission considered  
 5 PPL’s CAPM and RP methods, tempered by informed judgment, instead of  
 6 DCF-only results. We conclude that methodologies other than the DCF can  
 7 be used as a check upon the reasonableness of the DCF derived ROE  
 8 calculation. Historically, we have relied primarily upon the DCF  
 9 methodology in arriving at ROE determinations and have utilized the results  
 10 of the CAPM as a check upon the reasonableness of the DCF derived equity  
 11 return. As such, where evidence based on other methods suggests that the  
 12 DCF-only results may understate the utility’s ROE, we will consider those  
 13 other methods, to some degree, in determining the appropriate range of  
 14 reasonableness for our equity return determination. In light of the above, we  
 15 shall determine an appropriate ROE for Aqua using informed judgement  
 16 based on I&E’s DCF and CAPM methodologies.<sup>28</sup>

17 .....

18 We have previously determined, above, that we shall utilize I&E’s DCF and  
 19 CAPM methodologies. I&E’s DCF and CAPM produce a range of  
 20 reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89%  
 21 [CAPM]. Based upon our informed judgment, which includes consideration  
 22 of a variety of factors, including increasing inflation leading to increases in  
 23 interest rates and capital costs since the rate filing, we determine that a base  
 24 ROE of 9.75% is reasonable and appropriate for Aqua.<sup>29</sup>

25  
 26 **Q55. What are your conclusions about the results of the DCF models?**

27 A55. As discussed previously, one primary assumption of the Constant Growth DCF model is a  
 28 constant P/E ratio. That assumption is heavily influenced by the market price of utility  
 29 stocks. Since utility stocks are expected to underperform the broader market over the near-  
 30 term as interest rates increase, it is important to consider the results of the DCF models  
 31 with caution. Therefore, while I have given weight to the results of the Constant Growth  
 32 DCF model, my recommendation also gives weight to the results of other COE estimation  
 33 models.

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<sup>28</sup> Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, pp. 154–155.

<sup>29</sup> *Id.*, pp. 177–178.



$$\beta = \frac{\text{Covariance}(r_e, r_m)}{\text{Variance}(r_m)} \quad [4]$$

1 The variance of the market return (i.e., Variance ( $r_m$ )) is a measure of the uncertainty of the  
2 general market, and the covariance between the return on a specific security and the general  
3 market (i.e., Covariance ( $r_e, r_m$ )) reflects the extent to which the return on that security will  
4 respond to a given change in the general market return. Thus, Beta represents the risk of  
5 the security relative to the general market.

6 **Q57. What risk-free rate did you use in your CAPM analysis?**

7 A57. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average  
8 yield on 30-year U.S. Treasury bonds, which is 3.89 percent;<sup>30</sup> (2) the average projected  
9 30-year U.S. Treasury bond yield for the fourth quarter of 2023 through the fourth quarter  
10 of 2024, which is 3.84 percent;<sup>31</sup> and (3) the average projected 30-year U.S. Treasury bond  
11 yield for 2025 through 2029, which is 3.80 percent.<sup>32</sup>

12 **Q58. What Beta coefficients did you use in your CAPM analysis?**

13 A58. As shown Exhibit No. \_\_\_ (AEB-2), Schedule 5, I used the Beta coefficients for the proxy  
14 group companies as reported by Bloomberg and Value Line. The Beta coefficients reported  
15 by Bloomberg were calculated using ten years of weekly returns relative to the S&P 500  
16 Index. Value Line's calculation is based on five years of weekly returns relative to the New  
17 York Stock Exchange Composite Index.

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<sup>30</sup> Bloomberg Professional as of June 30, 2023.

<sup>31</sup> Blue Chip Financial Forecasts, Vol. 42, No. 7, at 2 (June 30, 2023).

<sup>32</sup> Blue Chip Financial Forecasts, Vol. 42, No. 6, at 14 (June 1, 2023).

1           Additionally, as shown in Exhibit No. \_\_\_ (AEB-2), Schedule 5, I also considered an  
2           additional CAPM analysis which relies on the long-term average utility Beta coefficient  
3           for the companies in my proxy group. As shown in Exhibit No. \_\_\_ (AEB-2), Schedule 6,  
4           the long-term average utility Beta coefficient was calculated as an average of the Value  
5           Line Beta coefficients for the companies in my proxy group from 2013 through 2022.

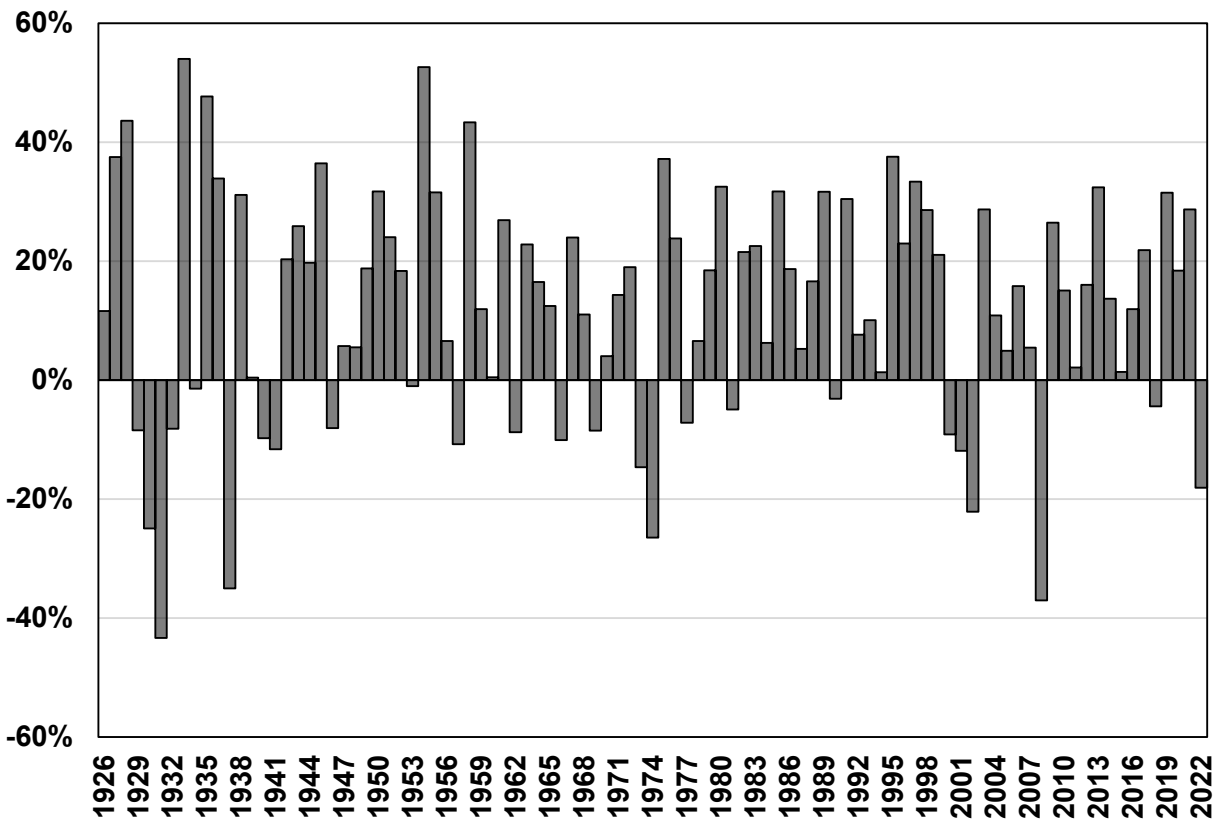
6           **Q59. How did you estimate the market risk premium in the CAPM?**

7           A59. I estimated the Market Risk Premium (“MRP”) as the difference between the implied  
8           expected equity market return and the risk-free rate. As shown in Exhibit No. \_\_\_ (AEB-  
9           2), Schedule 7, the expected return on the S&P 500 Index is calculated using the Constant  
10          Growth DCF model discussed earlier in my testimony for the companies in the S&P 500  
11          Index. Based on an estimated market capitalization-weighted dividend yield of 1.64 percent  
12          and a weighted long-term growth rate of 10.95 percent, the estimated required market  
13          return for the S&P 500 Index is 12.68 percent. Based on the three risk-free rates considered,  
14          the market risk premium ranges from 8.79 percent to 8.88 percent.

15          **Q60. How does the current expected market return of 12.68 percent compare to observed  
16          historical market returns?**

17          A60. Given the range of annual equity returns that have been observed over the past century  
18          (shown in Figure 8), a current expected return of 12.68 percent is not unreasonable. In 50  
19          out of the past 97 years (or roughly 52 percent of observations), the realized equity return  
20          was at least 12.68 percent or greater.

1

**Figure 8: Realized U.S. equity market returns (1926-2022)** <sup>33</sup>

2

3 **Q61. Did you consider another form of the CAPM in your analysis?**

4 A61. Yes. I have also considered the results of an ECAPM or alternatively referred to as the  
 5 Zero-Beta CAPM<sup>34</sup> in estimating the cost of equity for Montana-Dakota. The ECAPM  
 6 calculates the product of the adjusted Beta coefficient and the market risk premium and  
 7 applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent  
 8 weight to the market risk premium, without any effect from the Beta coefficient. The results  
 9 of the two calculations are summed, along with the risk-free rate, to produce the ECAPM  
 10 result, as noted in Equation [5] below:

<sup>33</sup> Depicts total annual returns on large company stocks, as reported in the 2022 *Kroll S&P 500* Yearbook.

<sup>34</sup> See Roger A. Morin, *New Regulatory Finance* at 189, Public Utilities Reports, Inc. (2006).

1 
$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

2 Where:

3  $k_e$  = the required market COE;

4  $\beta$  = Adjusted Beta coefficient of an individual security;

5  $r_f$  = the risk-free rate of return; and

6  $r_m$  = the required return on the market as a whole.

7 In essence, the Empirical form of the CAPM addresses the tendency of the “traditional”  
8 CAPM to underestimate the cost of equity for companies with low Beta coefficients such  
9 as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted  
10 Betas; rather, it recognizes the results of academic research indicating that the risk-return  
11 relationship is different (in essence, flatter) than estimated by the CAPM, and that the  
12 CAPM underestimates the “alpha,” or the constant return term.<sup>35</sup>

13 As with the CAPM, my application of the ECAPM uses the forward-looking market risk  
14 premium estimates, the three yields on 30-year Treasury securities noted earlier as the risk-  
15 free rate, and the Bloomberg, Value Line, and long-term average Beta coefficients.

16 **Q62. What are the results of your CAPM analyses?**

17 A62. As shown in Figure 9 (see also Exhibit No. \_\_\_ (AEB-2), Schedule 5), my traditional  
18 CAPM analysis produces a range of returns from 10.39 percent to 11.46 percent. The  
19 ECAPM analysis results range from 10.96 percent to 11.77 percent.

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<sup>35</sup> *Id.*, at 191.



1 **Figure 9: CAPM and ECAPM Results**

	<b>Current Risk-Free Rate (3.89%)</b>	<b>Q4 2023 – Q4 2024 Projected Risk-Free Rate (3.84%)</b>	<b>2025-2029 Projected Risk-Free Rate (3.80%)</b>
<i><b>CAPM</b></i>			
Value Line Beta	11.46%	11.46%	11.45%
Bloomberg Beta	10.87%	10.86%	10.85%
Long-term Avg. Beta	10.41%	10.40%	10.39%
<i><b>ECAPM</b></i>			
Value Line Beta	11.77%	11.76%	11.76%
Bloomberg Beta	11.32%	11.32%	11.31%
Long-term Avg. Beta	10.98%	10.97%	10.96%

2

3 **D. Bond Yield Plus Risk Premium Analysis**

4 **Q63. Please describe the Bond Yield Plus Risk Premium approach.**

5 A63. In general terms, this approach is based on the fundamental principle that equity investors  
6 bear the residual risk associated with equity ownership and therefore require a premium  
7 over the return they would have earned as a bondholder. That is, because returns to equity  
8 holders have greater risk than returns to bondholders, equity investors must be  
9 compensated to bear that risk. Risk premium approaches, therefore, estimate the cost of  
10 equity as the sum of the equity risk premium and the yield on a particular class of bonds.  
11 In my analysis, I used actual authorized returns for vertically integrated electric utility  
12 companies as the historical measure of the cost of equity to determine the risk premium.

13 **Q64. Are there other considerations that should be addressed in conducting this analysis?**

14 A64. Yes, there are. It is important to recognize both academic literature and market evidence  
15 indicating that the equity risk premium (as used in this approach) is inversely related to the

1 level of interest rates. That is, as interest rates increase, the equity risk premium decreases,  
2 and vice versa. Consequently, it is important to develop an analysis that: (1) reflects the  
3 inverse relationship between interest rates and the equity risk premium; and (2) relies on  
4 recent and expected market conditions. Such an analysis can be developed based on a  
5 regression of the risk premium as a function of U.S. Treasury bond yields. If we let  
6 authorized ROEs for electric utilities serve as the measure of required equity returns and  
7 define the yield on the long-term U.S. Treasury bond as the relevant measure of interest  
8 rates, the risk premium simply would be the difference between those two points.<sup>36</sup>

9 **Q65. Is the Bond Yield Plus Risk Premium analysis relevant to investors?**

10 A65. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider those  
11 awards as a benchmark for a reasonable level of equity returns for utilities of comparable  
12 risk operating in other jurisdictions. Because my Bond Yield Plus Risk Premium analysis  
13 is based on authorized ROEs for utility companies relative to corresponding Treasury  
14 yields, it provides relevant information to assess the return expectations of investors in the  
15 current interest rate environment.

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<sup>36</sup> See S. Keith Berry, Interest Rate Risk and Utility Risk Premia during 1982-93, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. See also Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return at 66, Financial Management (Spring 1986).

1 **Q66. What did your Bond Yield Plus Risk Premium analysis reveal?**

2 A66. As shown in Figure 10 below, from 1992 through June 2023, there was a strong negative  
3 relationship between risk premia and interest rates. To estimate that relationship, I  
4 conducted a regression analysis using the following equation:

$$5 \quad RP = a + b(T) \text{ [6]}$$

6 Where:

7 RP = Risk Premium (difference between allowed ROEs and the yield on 30-year  
8 U.S. Treasury bonds)

9 a = intercept term

10 b = slope term

11 T = 30-year U.S. Treasury bond yield

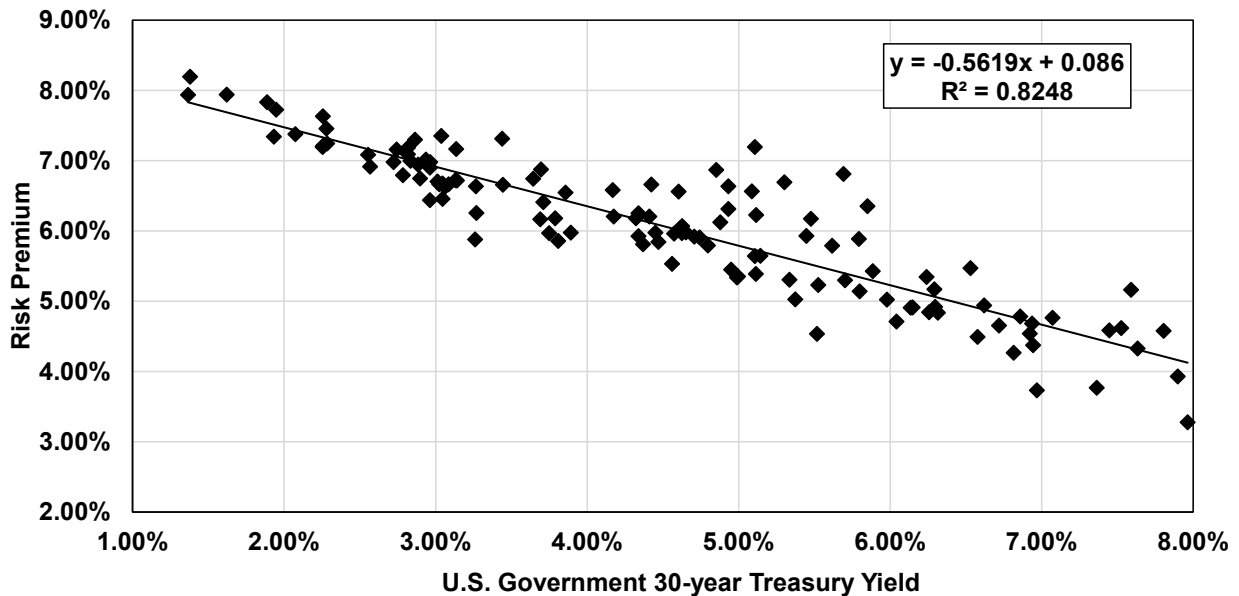
12 Data regarding allowed ROEs were derived from all of vertically integrated electric rate  
13 cases from 1992 through June 2023 as reported by Regulatory Research Associates  
14 (“RRA”).<sup>37</sup> This equation’s coefficients were statistically significant at the 99.00 percent  
15 level.

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<sup>37</sup> This analysis began with a total of 1,469 cases and was screened to eliminate limited issue rider cases, transmission-only cases, distribution-only cases and cases that were silent with respect to the authorized ROE. After applying those screening criteria, the analysis was based on data for 710 cases.

1

Figure 10: Risk Premium Results



2

3 As shown in Exhibit No. \_\_\_ (AEB-2), Schedule 8, based on the current 30-day average  
 4 of the 30-year U.S. Treasury bond yield (i.e., 3.89 percent), the risk premium would be  
 5 6.42 percent, resulting in an estimated cost of equity of 10.31 percent. Based on the near-  
 6 term (Q4 2023 – Q4 2024) projections of the 30-year U.S. Treasury bond yield (i.e., 3.84  
 7 percent), the risk premium would be 6.44 percent, resulting in an estimated ROE of 10.28  
 8 percent. Based on longer-term (2025 – 2029) projections of the 30-year U.S. Treasury  
 9 bond yield (i.e., 3.80 percent), the risk premium would be 6.47 percent, resulting in an  
 10 estimated ROE of 10.27 percent.

11 **Q67. How did the results of the Bond Yield Risk Premium inform your recommended ROE**  
 12 **for the Company?**

13 A67. I have considered the results of the Bond Yield Risk Premium analysis in setting my  
 14 recommended ROE for Montana-Dakota's electric operations in South Dakota. As noted  
 15 above, investors consider the ROE award of a company when assessing the risk of that  
 16 company as compared to utilities of comparable risk operating in other jurisdictions. The

1 Risk Premium analysis considers this comparison by estimating the return expectations of  
2 investors based on the current and past ROE awards of electric companies across the U.S.

3 **VII. REGULATORY AND BUSINESS RISKS**

4 **Q68. Taken alone, do the results of the cost of equity estimation models for the proxy group**  
5 **provide an appropriate estimate of the cost of equity for the Company?**

6 A68. No. These analyses provide only a range of the appropriate estimate of the Company's cost  
7 of equity. There are several additional factors that must be taken into consideration when  
8 determining where the Company's cost of equity falls within the range of results. These  
9 factors, which are discussed below, should be considered with respect to their overall effect  
10 on the Company's risk profile.

11 **A. Small Size**

12 **Q69. Please explain the risk associated with small size.**

13 A69. Both the financial and academic communities have long accepted the proposition that the  
14 cost of equity for small firms is subject to a "size effect". While empirical evidence of the  
15 size effect often is based on studies of industries other than regulated utilities, utility  
16 analysts also have noted the risk associated with small market capitalizations. Specifically,  
17 an analyst for Ibbotson Associates noted:

18 For small utilities, investors face additional obstacles, such as a smaller  
19 customer base, limited financial resources, and a lack of diversification  
20 across customers, energy sources, and geography. These obstacles imply a  
21 higher investor return.<sup>38</sup>

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<sup>38</sup> Michael Annin, Equity and the Small-Stock Effect, Public Utilities Fortnightly, October 15, 1995.

1 **Q70. How does the smaller size of a utility affect its business risk?**

2 A70. In general, smaller companies are less able to withstand adverse events that affect their  
3 revenues and expenses. The impact of weather variability, the loss of large customers to  
4 bypass opportunities, or the destruction of demand as a result of general macroeconomic  
5 conditions or fuel price volatility will have a proportionately greater impact on the earnings  
6 and cash flow volatility of smaller utilities. Similarly, capital expenditures for non-revenue  
7 producing investments, such as system maintenance and replacements, will put  
8 proportionately greater pressure on customer costs, potentially leading to customer attrition  
9 or demand reduction. Taken together, these risks affect the return required by investors for  
10 smaller companies.

11 **Q71. How does Montana-Dakota's electric operations in South Dakota compare in size to**  
12 **the proxy group companies?**

13 A71. The Company's utility operations are substantially smaller than the median for the proxy  
14 group companies in terms of market capitalization. While Montana-Dakota's electric  
15 operations in South Dakota are not publicly traded on a stand-alone basis, as shown on  
16 Exhibit No. \_\_\_ (AEB-2), Schedule 9, I have estimated the implied market capitalization  
17 for the Company (i.e., the market capitalization if the Company were a stand-alone  
18 publicly-traded entity) relative to the actual market capitalization for the proxy group  
19 companies.

20 Specifically, to estimate the size of the Company's implied market capitalization relative  
21 to the proxy group, I first calculated the equity component of the Company's capital  
22 structure by multiplying the Company's rate base for the Test Year of \$74.11 million by

1 the Company's proposed common equity ratio in this proceeding of 50.392 percent. I then  
2 applied the median market-to-book ratio for the proxy group of 1.61 to the Company's  
3 implied common equity balance to estimate an implied market capitalization, which is  
4 approximately \$60.09 million, or approximately 0.45 percent of the median market  
5 capitalization for the proxy group.

6 **Q72. How did you estimate the size premium for Montana-Dakota?**

7 A72. Given this relative size information, it is possible to estimate the impact of size on the cost  
8 of equity for Montana-Dakota's electric operations in South Dakota using *Kroll* Cost of  
9 Capital Navigator data that estimates the stock risk premia based on the size of a company's  
10 market capitalization.<sup>39</sup> As shown in Exhibit No. \_\_\_ (AEB-2), Schedule 9, the median  
11 market capitalization of the proxy group of approximately \$13.44 billion corresponds to  
12 the second decile of *Kroll's* market capitalization data.<sup>40</sup> Based on *Kroll's* analysis, that  
13 decile corresponds to a size premium of 0.45 percent (*i.e.*, 45 basis points). The implied  
14 market capitalization of Montana-Dakota's electric operations in South Dakota of  
15 approximately \$60.09 million falls within the tenth decile, which comprises market  
16 capitalization levels up to \$218.23 million and corresponds to a size premium of 4.83  
17 percent (*i.e.*, 483 basis points). The difference between those size premia is 438 basis points  
18 (*i.e.*, 4.83 percent minus 0.45 percent).

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<sup>39</sup> *Kroll* Cost of Capital Navigator – Size Premium. Annual Data as of December 31, 2022.

<sup>40</sup> *Ibid.*

1 **Q73. Were utility companies included in the size premium study conducted by *Kroll*?**

2 A73. Yes. In fact, as shown in Exhibit 7.2 of *Kroll's* 2019 Valuation Handbook, OGE Energy  
3 Corp. had the largest market capitalization of the companies contained in the fourth  
4 decile.<sup>41</sup> Therefore, *Kroll* did include utility companies in its size risk premium study.

5 **Q74. Is the size premium applicable to companies in regulated industries such as utilities?**

6 A74. Yes, it is. For example, Thomas Zepp in his article “Utility stocks and the size effect –  
7 revisited” provided the results of two studies which showed evidence of the required risk  
8 premium for small water utilities. The first study conducted by Staff of the California  
9 Public Utilities Commission (“CPUC Staff”) computed proxies for Beta risk using  
10 accounting data from 1981 through 1991 for 58 water utilities and concluded that smaller  
11 water utilities had greater risk and required higher returns on equity than larger water  
12 utilities.<sup>42</sup> The second study referenced by Zepp examined the differences in required  
13 returns over the period of 1987-1997 for two large and two small water utilities in  
14 California. As Zepp showed, the required return for the two small water utilities calculated  
15 using the DCF model was on average 99 basis points higher than the two larger water  
16 utilities.<sup>43</sup>

17 Additionally, Stéphane Chrétien and Frank Coggins in the article “Cost of Equity for  
18 Energy Utilities: Beyond the CAPM”,<sup>44</sup> recently studied the CAPM and its ability to  
19 estimate the risk premium for the utility industry in particular subgroups of utilities. The

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<sup>41</sup> Duff & Phelps, Valuation Handbook: Guide to Cost of Capital, 2019, Exhibit 7.2.

<sup>42</sup> Zepp, Thomas M. “Utility Stocks and the Size Effect—Revisited.” *The Quarterly Review of Economics and Finance*, vol. 43, no. 3, 2003, pp. 578–582., doi:10.1016/s1062-9769(02)00172-2.

<sup>43</sup> Ibid.

<sup>44</sup> Chrétien, Stéphane, and Frank Coggins. “Cost Of Equity For Energy Utilities: Beyond The CAPM.” *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531.



1 article considered the CAPM, the Fama-French three-factor model and a model similar to  
2 the ECAPM that I have also considered above. In the article, the Fama-French three-factor  
3 model explicitly included an adjustment to the CAPM for risk associated with size. As  
4 Chrétien and Coggins show the Beta coefficient on the size variable for the U.S. natural  
5 gas utility group was positive and statistically significant indicating that small size risk was  
6 relevant for regulated natural gas utilities.<sup>45</sup>

7 **Q75. Have regulators in other jurisdictions made a specific risk adjustment to the cost of**  
8 **equity results based on a company's small size?**

9 A75. Yes. In Order No. 15, the Regulatory Commission of Alaska (“RCA”) concluded that  
10 Alaska Electric Light and Power Company (“AEL&P”) was riskier than the proxy group  
11 companies due to small size as well as other business risks. The RCA did “not believe that  
12 adopting the upper end of the range of ROE analyses in this case, without an explicit  
13 adjustment, would adequately compensate AEL&P for its greater risk.”<sup>46</sup> Thus, the RCA  
14 awarded AEL&P an ROE of 12.875 percent which was 108 basis points above the highest  
15 cost of equity estimate from any model presented in the case.<sup>47</sup> Similarly, in Order No. 19,  
16 the RCA noted that small size as well as other business risks such as structural regulatory  
17 lag, weather risk, alternative rate mechanisms, gas supply risk, geographic isolation and

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<sup>45</sup> Chrétien, Stéphane, and Frank Coggins. “Cost of Equity For Energy Utilities: Beyond The CAPM.” *Energy Studies Review*, vol. 18, no. 2, 2011, doi:10.15173/esr.v18i2.531.

<sup>46</sup> Docket No. U-10-29, In the Matter of the Revenue Requirement and Cost of Service Study Designated as TA381-1 Filed by Alaska Electric Light and Power Company, Order entered September 2, 2011 (Order No. 15) at 37.

<sup>47</sup> *Id.*, at 32 and 37.

1 economic conditions increased the risk of ENSTAR Natural Gas Company.<sup>48</sup> Ultimately,  
2 the RCA concluded that:

3 Although we agree that the risk factors identified by ENSTAR increase its  
4 risk, we do not attempt to quantify the amount of that increase. Rather, we  
5 take the factors into consideration when evaluating the remainder of the  
6 record and the recommendations presented by the parties. After applying  
7 our reasoned judgment to the record, we find that 11.875% represents a fair  
8 ROE for ENSTAR.<sup>49</sup>

9 Additionally, in Docket No. E017/GR-15-1033 for Otter Tail Power Company (“Otter  
10 Tail”), the Minnesota Public Utilities Commission (“Minnesota PUC”) selected an ROE  
11 above the mean DCF results, as a result of multiple factors including Otter Tail’s small  
12 size. The Minnesota PUC stated:

13 The record in this case establishes a compelling basis for selecting an ROE  
14 above the mean average within the DCF range, given Otter Tail’s unique  
15 characteristics and circumstances relative to other utilities in the proxy  
16 group. These factors include the company’s relatively smaller size,  
17 geographically diffuse customer base, and the scope of the Company’s  
18 planned infrastructure investments.<sup>50</sup>

19 Finally, in Opinion Nos. 569 and 569-A, the FERC has relied on a size premium  
20 adjustment in its CAPM estimates for electric utilities. In those decisions, the FERC noted  
21 that “the size adjustment was necessary to correct for the CAPM’s inability to fully account  
22 for the impact of firm size when determining the cost of equity.”<sup>51</sup>

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<sup>48</sup> Docket No. U-16-066, In the Matter of the Tariff Revision Designated as TA285-4 Filed by ENSTAR Gas Company, A Division of Semco Energy, Inc., Order entered September 22, 2017 (Order No. 19) at 50-52.

<sup>49</sup> Ibid.

<sup>50</sup> Order in Docket No. E017/GR-15-1033, In the Matter of the Application of Otter Tail Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota (August 16, 2016) at 55.

<sup>51</sup> Federal Energy Regulatory Commission, Opinion No. 569-A, May 21, 2020, at para 75. The U.S. Court of Appeals recently vacated the FERC Order 569 decisions that related to its risk premium model and remanded the case to FERC to reopen proceedings. However, in that decision, the Court did not reject FERC’s inclusion of the size premium to estimate the CAPM. United States Court of Appeals Case No. 16-1325, Decision No. 16-1325, August 9, 2022 at 20.

1 **Q76. How have you considered the smaller size of Montana-Dakota’s electric operations in**  
2 **South Dakota in your recommended ROE?**

3 A76. While I have estimated the effect of the size of Montana-Dakota’s electric operations in  
4 South Dakota on the cost of equity, I am not proposing a specific adjustment for this risk  
5 factor. Rather, I believe it is important to consider the small size of Montana-Dakota’s  
6 electric operations in South Dakota in the determination of where, within the range of  
7 analytical results, the Company’s required cost of equity falls. All else equal, the additional  
8 risk associated with the Company’s small size supports an ROE toward the upper end of  
9 the range of results from the cost of equity estimation models.

10 **B. Flotation Cost**

11 **Q77. What are flotation costs?**

12 A77. Flotation costs are the costs associated with the sale of new issues of common stock. These  
13 costs include out-of-pocket expenditures for preparation, filing, underwriting, and other  
14 issuance costs.

15 **Q78. Why is it important to consider flotation costs in the allowed ROE?**

16 A78. A regulated utility must have the opportunity to earn an ROE that is both competitive and  
17 compensatory to attract and retain new investors. To the extent that a company is denied  
18 the opportunity to recover prudently incurred flotation costs, actual returns will fall short  
19 of expected (or required) returns, thereby diluting equity share value.

20 **Q79. Are flotation costs part of the utility’s invested costs or part of the utility’s expenses?**

21 A79. Flotation costs are part of the invested costs of the utility, which are properly reflected on  
22 the balance sheet under “paid in capital.” They are not current expenses, and, therefore,

1 are not reflected on the income statement. Rather, like investments in rate base or the  
2 issuance costs of long-term debt, flotation costs are incurred over time. As a result, the  
3 great majority of a utility's flotation cost is incurred prior to the test year but remains part  
4 of the cost structure that exists during the test year and beyond, and as such, should be  
5 recognized for ratemaking purposes. Therefore, it is irrelevant whether an issuance occurs  
6 during the test year or is planned for the test year because failure to allow recovery of past  
7 flotation costs may deny Montana-Dakota the opportunity to earn its required ROR in the  
8 future.

9 **Q80. Please provide an example of why a flotation cost adjustment is necessary to**  
10 **compensate investors for the capital they have invested.**

11 A80. Suppose MDU Resources issues stock with a value of \$100, and an equity investor invests  
12 \$100 in MDU Resources in exchange for that stock. Further suppose that, after paying the  
13 flotation costs associated with the equity issuance, which include fees paid to underwriters  
14 and attorneys, among others, MDU Resources ends up with only \$97 of issuance proceeds,  
15 rather than the \$100 the investor contributed. MDU Resources invests that \$97 in plant  
16 used to serve its customers, which becomes part of rate base. Absent a flotation cost  
17 adjustment, the investor will thereafter earn a return on only the \$97 invested in rate base,  
18 even though she contributed \$100. Making a small flotation cost adjustment gives the  
19 investor a reasonable opportunity to earn the authorized return, rather than the lower return  
20 that results when the authorized return is applied to an amount less than what the investor  
21 contributed.

1 **Q81. Is the date of MDU Resources' last issued common equity important in the**  
2 **determination of flotation costs?**

3 A81. No. As shown in Exhibit No. \_\_\_\_ (AEB-2), Schedule 10, MDU Resources closed on equity  
4 issuances of approximately \$58 million and \$54 million (for a total of 4.7 million shares  
5 of common stock) in November 2002 and February 2004, respectively. The vintage of the  
6 issuance, however, is not particularly important because the investor suffers a shortfall in  
7 every year that he should have a reasonable opportunity to earn a return on the full amount  
8 of capital that he has contributed. Returning to my earlier example, the investor who  
9 contributed \$100 is entitled to a reasonable opportunity to earn a return on \$100 not only  
10 in the first year after the investment, but in every subsequent year in which he has the \$100  
11 invested. Leaving aside depreciation, which is dealt with separately, there is no basis to  
12 conclude that the investor is entitled to earn a return on \$100 in the first year after issuance,  
13 but thereafter is entitled to earn a return on only \$97. As long as the \$100 is invested, the  
14 investor should have a reasonable opportunity to earn a return on the entire amount.

15 **Q82. Is the need to consider flotation costs eliminated because Montana-Dakota is a wholly**  
16 **owned subsidiary of MDU Resources?**

17 A82. No, it is not. Although the Company is a wholly-owned subsidiary of MDU Resources, it  
18 is appropriate to consider flotation costs. Wholly-owned subsidiaries receive equity capital  
19 from their parent and provide returns on the capital that roll up to the parent, which is  
20 designated to attract and raise capital based upon the returns of those subsidiaries. To deny  
21 recovery of issuance costs associated with the capital that is invested in the subsidiaries  
22 ultimately penalizes the investors that fund utility operations and inhibits the utility's  
23 ability to obtain new equity capital at a reasonable cost. This is particularly important in

1 the current circumstance given that the Company is planning significant capital  
2 expenditures in the near term.

3 **Q83. Is the need to consider flotation costs recognized by the academic and financial**  
4 **communities?**

5 A83. Yes. The need to reimburse shareholders for the lost returns associated with equity  
6 issuance costs is recognized by the academic and financial communities in the same spirit  
7 that investors are reimbursed for the costs of issuing debt. This treatment is consistent with  
8 the philosophy of a fair ROR. According to Dr. Shannon Pratt:

9 Flotation costs occur when new issues of stock or debt are sold to the public.  
10 The firm usually incurs several kinds of flotation or transaction costs, which  
11 reduce the actual proceeds received by the firm. Some of these are direct  
12 out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and  
13 prospectus preparation costs. Because of this reduction in proceeds, the  
14 firm's required returns on these proceeds equate to a higher return to  
15 compensate for the additional costs. Flotation costs can be accounted for  
16 either by amortizing the cost, thus reducing the cash flow to discount, or by  
17 incorporating the cost into the cost of capital. Because flotation costs are  
18 not typically applied to operating cash flow, one must incorporate them into  
19 the cost of capital.<sup>52</sup>

20 **Q84. Has the Commission found that flotation cost adjustments for the recovery of equity**  
21 **issuance costs are appropriate?**

22 A84. Yes, it has. The Commission has allowed flotation costs in recent cases. For example, the  
23 Commission determined that the recovery of flotation costs was appropriate in both its

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<sup>52</sup> Shannon P. Pratt, *Cost of Capital Estimation and Applications*, Second Edition, at 220-221.

1 2012 decision for Northern State Power Company<sup>53</sup> and its 2019 decision for Otter Tail  
2 Power Company.<sup>54</sup>

3 **Q85. How did you calculate the flotation costs for Montana-Dakota?**

4 A85. My flotation cost is estimated on the costs of issuing equity that were incurred by MDU  
5 Resources in its two most recent common equity issuances. As shown in Exhibit No. \_\_\_  
6 (AEB-2), Schedule 10, based on the flotation costs of those two issuances, the impact on  
7 the proxy group's cost of equity amounts to 17 basis points (*i.e.*, 0.17 percent) based on the  
8 median and 15 basis points (*i.e.*, 0.15 percent) based on the mean.

9 **Q86. Do your final results include an adjustment for flotation cost recovery?**

10 A86. No. I did not make an explicit adjustment for flotation costs to any of my quantitative  
11 analyses. Rather, I provide the above result for consideration in my recommended ROE,  
12 which reflects the range of results from my Constant Growth DCF, CAPM, ECAPM and  
13 Risk Premium analyses.

14 **C. Capital Expenditures**

15 **Q87. Please summarize the capital expenditure requirements for Montana-Dakota's**  
16 **electric operations.**

17 A87. As of December 31, 2022, the Company had net electric utility plant in South Dakota of  
18 approximately \$73.66 million, and the Company currently projects capital expenditures for  
19 2024 through 2027 of approximately \$40.13 million. Therefore, the Company's projected

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<sup>53</sup> Docket No. EL11-019, The Mater of the Application of Northern States Power Company DBA Xcel Energy for Authority to Increase its Electric Rates, Final Decision and Order, (Jul. 2, 2012), at 6.

<sup>54</sup> Docket No. EL18-021, In The Mater of the Application of Otter Tail Power Company for Authority to Increase its Electric Rates, Final Decision and Order, (May 30, 2019), at 8.

1 capital expenditures represent approximately 54.48 percent of its net utility plant as of  
2 December 31, 2022.

3 **Q88. How is the Company's risk profile affected by its capital expenditure requirements?**

4 A88. As with any utility faced with substantial capital expenditure requirements, the Company's  
5 risk profile may be adversely affected in two significant and related ways: (1) the  
6 heightened level of investment increases the risk of under-recovery or delayed recovery of  
7 the invested capital; and (2) an inadequate return would put downward pressure on key  
8 credit metrics.

9 **Q89. Do credit rating agencies recognize the risks associated with elevated levels of capital  
10 expenditures?**

11 A89. Yes, they do. From a credit perspective, the additional pressure on cash flows associated  
12 with high levels of capital expenditures exerts corresponding pressure on credit metrics  
13 and, therefore, credit ratings. To that point, S&P explains the importance of regulatory  
14 support for large capital projects:

15 When applicable, a jurisdiction's willingness to support large capital  
16 projects with cash during construction is an important aspect of our analysis.  
17 This is especially true when the project represents a major addition to rate  
18 base and entails long lead times and technological risks that make it  
19 susceptible to construction delays. Broad support for all capital spending is  
20 the most credit-sustaining. Support for only specific types of capital  
21 spending, such as specific environmental projects or system integrity plans,  
22 is less so, but still favorable for creditors. Allowance of a cash return on  
23 construction work-in-progress or similar ratemaking methods historically  
24 were extraordinary measures for use in unusual circumstances, but when  
25 construction costs are rising, cash flow support could be crucial to maintain  
26 credit quality through the spending program. Even more favorable are those



1 jurisdictions that present an opportunity for a higher return on capital  
2 projects as an incentive to investors.<sup>55</sup>

3 Therefore, to the extent that Montana-Dakota's rates do not permit the opportunity  
4 to earn an appropriate return and recover its capital investments on a regular and timely  
5 basis, the Company will face increased recovery risk and thus increased pressure on its  
6 credit metrics.

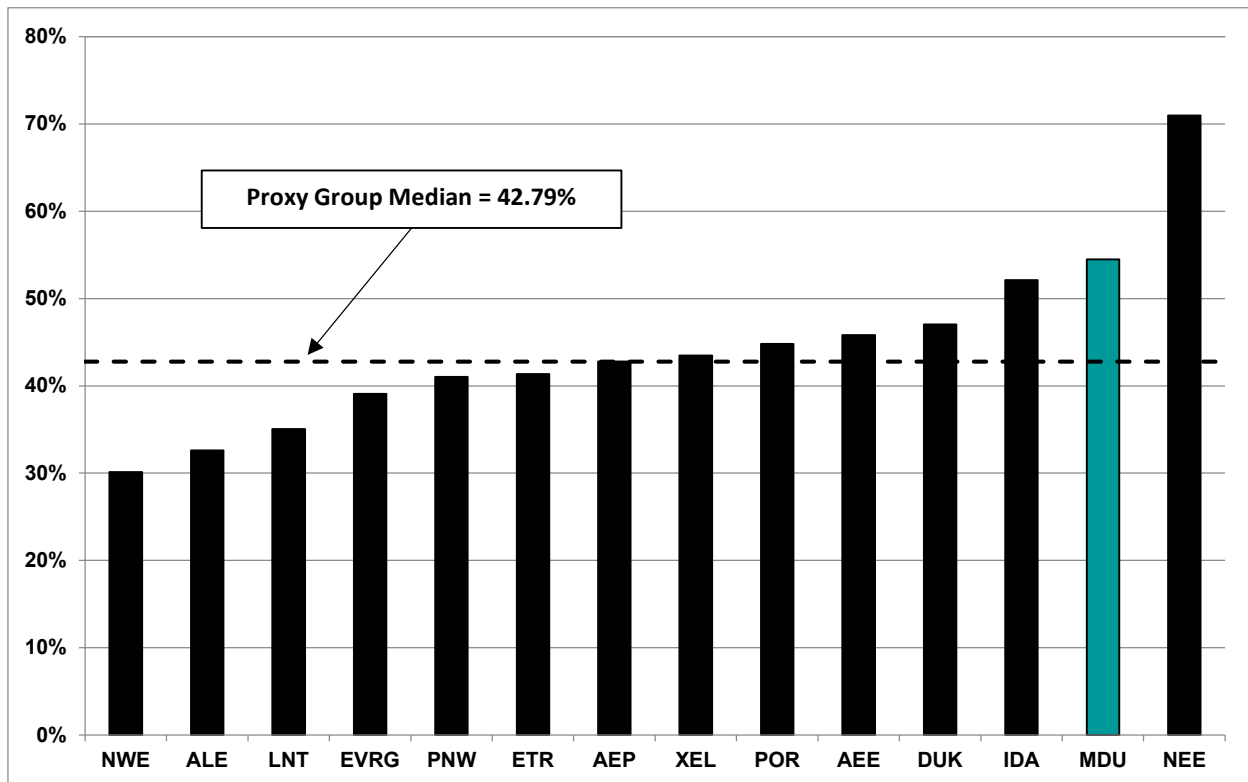
7 **Q90. How do Montana-Dakota's capital expenditure requirements compare to those of the**  
8 **proxy group companies?**

9 A90. As shown in Exhibit No. \_\_\_ (AEB-2), Schedule 11, I calculated the ratio of expected  
10 capital expenditures to net utility plant for the Company and each of the companies in the  
11 proxy group by dividing each company's projected capital expenditures for the period from  
12 2024-2027 by its total net utility plant as of December 31, 2022. As shown in Exhibit No.  
13 \_\_\_ (AEB-2), Schedule 11 (see also Figure 11 below), the Company's ratio of capital  
14 expenditures as a percentage of net utility plant is 54.48 percent, which is greater than the  
15 median for the proxy group companies of 42.79 percent. This result indicates a risk level  
16 for Montana-Dakota that is higher than the proxy group companies

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<sup>55</sup> S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.  
Page 57

1 **Figure 11: Comparison of Capital Expenditures – Proxy Group Companies**



2  
3 **Q91. Does Montana-Dakota have a capital tracking mechanism to recover the costs**  
4 **associated with its capital expenditures plan between rate cases?**

5 A91. Yes. The Company has an Infrastructure Rider (“IR”) that allows for the recovery of  
6 significant infrastructure investments between rate cases deemed eligible for recovery  
7 under South Dakota Codified Law (“SDLC”) 49-34A-73 and a Transmission Cost  
8 Recovery Rider (“TCR”) that allows for the recovery of costs associated with transmission  
9 related projects deemed eligible for recovery under SDLC 49-34A-25.1. However, it is  
10 important to note that the Company only recovers a portion of its capital costs through the  
11 IR and TCR and thus still relies on rate case filings for capital cost recovery.

1 **Q92. Are capital investment recovery mechanisms common amongst electric utilities?**

2 A92. Yes. As shown in Exhibit No. \_\_\_ (AEB-2), Schedule 12, 71.21 percent of the utility  
3 operating subsidiaries of the proxy group companies recover costs through capital  
4 investment reconciling mechanisms. Therefore, the IR and TCR do not provide any  
5 incremental risk mitigation for the financial risks associated with capital expenditures  
6 relative to the proxy group.

7 **Q93. What are your conclusions regarding the effect of the Company's capital spending  
8 requirements on its risk profile and cost of capital?**

9 A93. The Company's capital expenditure requirements as a percentage of net utility plant are  
10 significant and will continue to be so over the next several years. Additionally, similar to  
11 a number of the operating subsidiaries of the proxy group, Montana-Dakota does have a  
12 capital tracking mechanism to recover some of the Company's projected capital  
13 expenditures.

14 **D. Regulatory Risk**

15 **Q94. How does the regulatory environment affect investors' risk assessments?**

16 A94. The ratemaking process is premised on the principle that, for investors and companies to  
17 commit the capital needed to provide safe and reliable utility services, the subject utility  
18 must have the opportunity to recover invested capital and the market-required return on  
19 such capital. Regulatory commissions recognize that because utility operations are capital  
20 intensive, regulatory decisions should enable the utility to attract capital at reasonable terms,  
21 which balances the long-term interests of investors and customers. In that respect, the

1 regulatory framework in which a utility operates is one of the most important factors  
2 considered in both debt and equity investors' risk assessments.

3 Because investors have many investment alternatives, even within a given market sector,  
4 the Company's authorized returns must be adequate on a relative basis to ensure their  
5 ability to attract capital under a variety of economic and financial market conditions. From  
6 the perspective of debt investors, the authorized return should enable the Company to  
7 generate the cash flow needed to meet their near-term financial obligations, make the  
8 capital investments needed to maintain and expand their systems, and maintain sufficient  
9 levels of liquidity to fund unexpected events. This financial liquidity must be derived not  
10 only from internally generated funds, but also from efficient access to capital markets.

11 From the perspective of equity investors, the authorized return must be adequate to provide  
12 a risk-comparable return on the equity portion of the Company's capital investments.  
13 Because equity investors are the residual claimants on the Company's cash flows (that is,  
14 debt interest must be paid prior to any equity dividends), equity investors are particularly  
15 concerned with the regulatory framework in which a utility operates and its effect on future  
16 earnings and cash flows.

17 **Q95. How do credit rating agencies consider regulatory risk in establishing a company's**  
18 **credit rating?**

19 A95. Both S&P and Moody's consider the overall regulatory framework in establishing credit  
20 ratings. Moody's establishes credit ratings based on four key factors: (1) regulatory  
21 framework; (2) the ability to recover costs and earn returns; (3) diversification; and (4)  
22 financial strength, liquidity, and key financial metrics. Of these criteria, regulatory

1 framework, and the ability to recover costs and earn returns are each given a broad rating  
2 factor of 25.00 percent. Therefore, Moody’s assigns regulatory risk a 50.00 percent  
3 weighting in the overall assessment of business and financial risk for regulated utilities.<sup>56</sup>

4 S&P also identifies the regulatory framework as an important factor in credit ratings for  
5 regulated utilities, stating: “One significant aspect of regulatory risk that influences credit  
6 quality is the regulatory environment in the jurisdictions in which a utility operates.”<sup>57</sup> S&P  
7 identifies four specific factors that it uses to assess the credit implications of the regulatory  
8 jurisdictions of investor-owned regulated utilities: (1) regulatory stability; (2) tariff-setting  
9 procedures and design; (3) financial stability; and (4) regulatory independence and  
10 insulation.<sup>58</sup>

11 **Q96. How does the regulatory environment in which a utility operates affect its access to**  
12 **and cost of capital?**

13 A96. The regulatory environment can significantly affect both the access to, and cost of capital  
14 in several ways. First, the proportion and cost of debt capital available to utility companies  
15 are influenced by the rating agencies’ assessment of the regulatory environment. As noted  
16 by Moody’s, “[f]or rate regulated utilities, which typically operate as a monopoly, the  
17 regulatory environment and how the utility adapts to that environment are the most  
18 important credit considerations.”<sup>59</sup> Moody’s further highlighted the relevance of a stable  
19 and predictable regulatory environment to a utility’s credit quality, noting: “[b]roadly

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<sup>56</sup> Moody’s Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 4.

<sup>57</sup> Standard & Poor’s Global Ratings, Ratings Direct, U.S. and Canadian Regulatory Jurisdictions Support Utilities’ Credit Quality—But Some More So Than Others, June 25, 2018, at 2.

<sup>58</sup> *Id.*, at 1.

<sup>59</sup> Moody’s Investors Service, Rating Methodology: Regulated Electric and Gas Utilities, June 23, 2017, at 6.

1 speaking, the Regulatory Framework is the foundation for how all the decisions that affect  
2 utilities are made (including the setting of rates), as well as the predictability and  
3 consistency of decision-making provided by that foundation.”<sup>60</sup>

4 **Q97. Have you conducted any analysis of the regulatory framework in South Dakota**  
5 **relative to the jurisdictions in which the companies in your proxy group operate?**

6 A97. Yes. I have evaluated the regulatory framework in South Dakota considering two factors  
7 which are important to ensuring Montana-Dakota maintains access to capital at reasonable  
8 terms. As I will discuss in more detail below, the two factors are: (1) cost recovery  
9 mechanisms which allow a utility to recover costs in a timely manner between rate cases  
10 and provide the utility the opportunity to earn its authorized return; and (2) comparable  
11 return standard<sup>61</sup> because an awarded ROE that is significantly below the ROEs awarded  
12 to other utilities with comparable risks can affect the ability of a utility to attract capital at  
13 reasonable terms.

14 **1. Cost Recovery Mechanisms**

15 **Q98. Have you conducted any analysis to compare the cost recovery mechanisms of**  
16 **Montana-Dakota to the cost recovery mechanisms approved in the jurisdictions in**  
17 **which the companies in your proxy group operate?**

18 A98. Yes. I selected three mechanisms that are important to provide a regulated utility an  
19 opportunity to earn its authorized ROE: (1) test year convention (i.e., forecast vs.  
20 historical); (2) use of rate design or other mechanisms that mitigate volumetric risk and

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<sup>60</sup> *Id.*

<sup>61</sup> *Hope* and *Bluefield* require the return be commensurate with returns on investments in enterprises with similar risk.

1 stabilize revenue; and (3) prevalence of capital cost recovery between rate cases. The  
2 results of this regulatory risk assessment are shown in Exhibit No. \_\_\_ (AEB-2), Schedule  
3 12 and are summarized as follows:

4 Test Year Convention: Montana-Dakota is proposing to rely on a partially forecast  
5 test year ending December 31, 2023 in South Dakota. Similarly, approximately  
6 45.45 percent of the utility operating subsidiaries of the companies in the proxy  
7 group use either fully or partially forecasted test years.

8 Revenue Stabilization / Volumetric Risk: Montana-Dakota does not have  
9 protection against volumetric risk in South Dakota, either through a revenue  
10 decoupling mechanism, formula rate plan or straight fixed-variable rate design.  
11 However, approximately 53.03 percent of the operating companies held by the  
12 proxy group have some form of revenue stabilization that allow them to break the  
13 link between customer usage and revenues.

14 Capital Cost Recovery: As discussed above, Montana-Dakota can recover a portion  
15 of capital investment costs between rate cases through its IR and TCR. This is  
16 consistent with the proxy group as 47 out of 66 (approximately 71 percent) of the  
17 operating companies held by the proxy group have some form of capital cost  
18 recovery mechanism in place.

## 19 2. Authorized ROEs

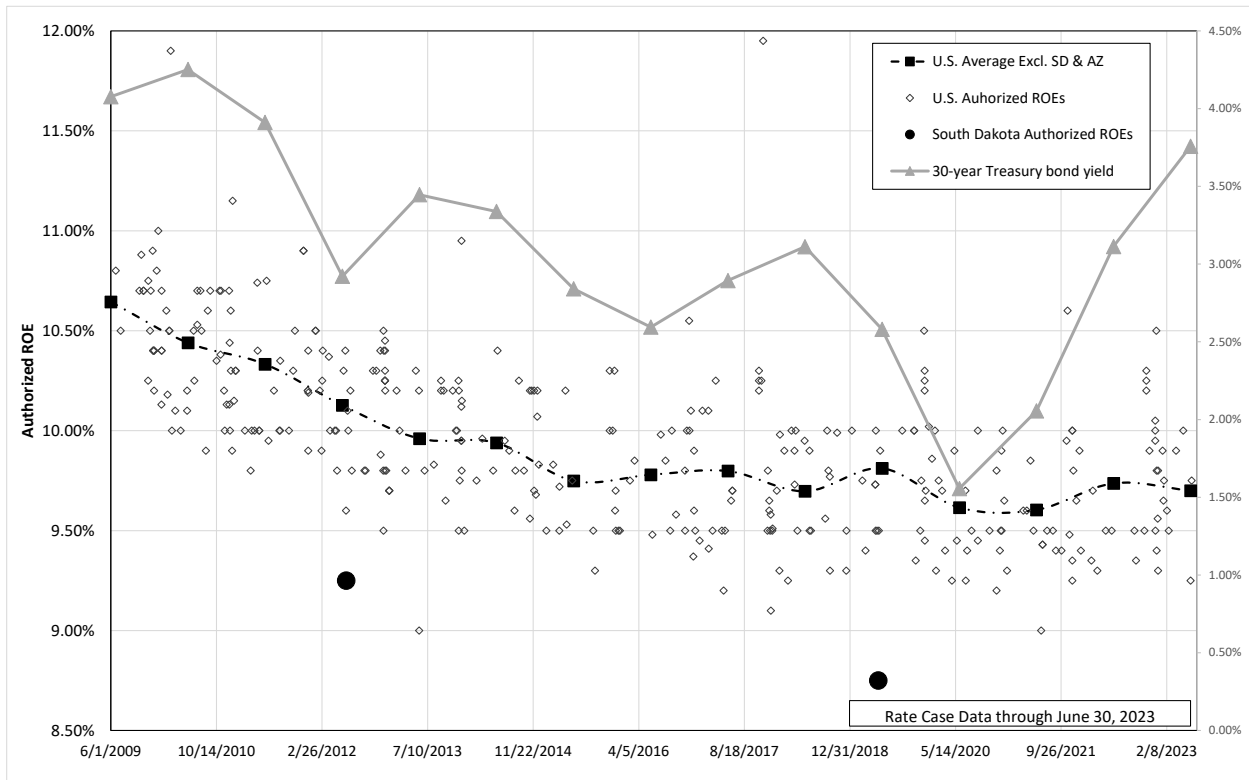
20 **Q99. How do recent returns in South Dakota compare to the authorized returns in other**  
21 **jurisdictions?**

22 A99. While there has only been two fully litigated electric rate case decisions where the  
23 authorized ROE was specified since 2009 in South Dakota, the authorized ROE awarded  
24 in each case was well below the average authorized ROE for vertically integrated electric  
25 utilities across the U.S. at the time the cases were decided. Figure 12 below shows the

1 authorized returns for vertically integrated electric utilities in other jurisdictions since June  
2 2009, the returns authorized in South Dakota for electric companies and the yield on the  
3 30-year Treasury bond. As shown in Figure 12, the authorized returns for electric utilities  
4 in South Dakota have historically been in the lower-end of the range produced by the  
5 authorized ROEs from other state jurisdictions. The 2019 authorized ROE for Otter Tail  
6 Power Company, which was the most recent authorized ROE in South Dakota, was  
7 significantly lower than the national average for that time-period. Further, the yield on the  
8 30-year Treasury bond is currently substantially higher than at the time the Commission  
9 issued its decision for Otter Tail Power Company in 2019. At the time of that decision, the  
10 yield on the 30-year Treasury bond was approximately 2.58 percent whereas the current  
11 yield is 3.89 percent, an increase of 131 basis points.



1 **Figure 12: Comparison of South Dakota and U.S. Authorized Vertically Integrated Electric**  
 2 **Returns<sup>62</sup>**



3  
 4 **Q100. Should the Commission be concerned about authorizing equity returns that are at the**  
 5 **low end of the range established by other state regulatory jurisdictions?**

6 A100. Yes. Placing Montana-Dakota at the low end of authorized ROEs across the U.S. can  
 7 negatively affect the Company’s access to capital and the overall cost of capital over the  
 8 longer term. As I discuss below, the recent negative rate case determination, including a  
 9 below average authorized ROE for Arizona Public Service Company (“APS”) resulted in  
 10 a 24 percent decline in the share price for Pinnacle West Capital Corporation (“PNW”).

11 Second, as noted in Sections IV and VI, interest rates increased significantly in 2022 due  
 12 to inflation and the Federal Reserve’s normalization of monetary policy, which is expected

<sup>62</sup> S&P Capital IQ Pro.

1 to remain restrictive for the near-term. While historical authorized ROEs provide investors  
2 with a range of recent returns, it is important to recognize that the recent decisions do not  
3 take into consideration the effect of the recent change in market conditions on the investor-  
4 required return. Therefore, it is important that the Commission consider the results of  
5 forward-looking methodologies such as the CAPM, ECAPM, and Bond Yield Plus Risk  
6 Premium which rely directly on current and projected interest rates in the estimation of the  
7 cost of equity.

8 **Q101. Do credit rating agencies consider the authorized ROE in the overall risk assessment**  
9 **of a utility?**

10 A101. Yes, they do. To the extent that the returns in a jurisdiction are lower than the returns that  
11 have been authorized more broadly, credit rating agencies will consider this in the overall  
12 risk assessment of the regulatory jurisdiction in which the company operates. It is  
13 important to consider credit ratings because they affect the overall cost of borrowing, and  
14 they act as a signal to equity investors about the risk of investing in the equity of a company.  
15 Therefore, lower credit ratings can affect both the cost of debt and equity. Examples of  
16 recent credit rating agency responses include ALLETE, Inc., and PNW. Moody's  
17 downgraded ALLETE, Inc. from A3 to Baa1 primarily based on the less than favorable  
18 outcome in Minnesota Power's 2016 fully litigated rate case in Minnesota which included  
19 what Moody's noted was a below average authorized ROE of 9.25 percent.<sup>63</sup> In addition,  
20 FitchRatings recently downgraded and maintained a negative outlook for APS and its  
21 parent, PNW, following the hearings conducted by the Arizona Corporation Commission

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<sup>63</sup> Moody's Investors Service, "Credit Opinion: ALLETE, Inc. Update following downgrade," at 3 (April 3, 2019).

1 (“ACC”) in October 2021 regarding APS’ then current rate case proceeding.<sup>64</sup> While the  
2 ACC had not issued a final order in APS’ rate case at the time, FitchRatings noted that the  
3 developments at the hearing in October indicate a likely credit negative outcome that will  
4 negatively affect the financial metrics of both APS and PNW. It is also important to note  
5 that both Standard & Poor’s and Moody’s downgraded PNW’s and APS’ credit rating and  
6 put the companies on credit watch negative following the Commission’s November 2021  
7 vote that officially authorized the 8.70 percent ROE.<sup>65</sup>

8 **Q102. Are you aware of any utilities that have been affected by adverse rate case**  
9 **developments?**

10 A102. Yes. In Arizona Public Service’s (“APS”) most recently completed rate case, the Arizona  
11 Corporation Commission (“AZCC”) reduced the authorized ROE for APS from 10.00  
12 percent to 8.70 percent, even though the Administrative Law Judge had recommended an  
13 ROE of 9.16 percent.<sup>66</sup> As a result of this rate case decision, as noted above, credit ratings  
14 agencies instituted negative ratings actions, the stock price of APS’s parent Pinnacle West  
15 Capital Corporation fell significantly, and APS’s projected earnings growth rate estimates  
16 were reduced to zero or nearly zero. For example, after the decision, APS’s projected EPS  
17 growth rates reported by IBES were reduced to nearly zero. In addition, the five-year  
18 projected EPS growth rate published by *Value Line* for APS fell from 5.0 percent in July

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<sup>64</sup> FitchRatings, “Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative,” October 12, 2021.

<sup>65</sup> See S&P Capital IQ and Moody’s Investors Service, “Rating Actions: Moody's downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative,” (Nov. 17, 2021).

<sup>66</sup> Arizona Corporation Commission, ALJ Recommended Opinion and Order, August 2, 2021, at 322.

1 2021 prior to the deliberations in the rate proceeding to “Nil” in October 2021, and most  
2 recently is at just 2.5 percent as of April 2023.

3 **Q103. How should the Commission use the information regarding authorized ROEs in other**  
4 **jurisdictions in determining the ROE for Montana-Dakota?**

5 A103. The companies in the proxy group operate in multiple jurisdictions across the U.S. Since  
6 Montana-Dakota must compete directly for capital with investments of similar risk, it is  
7 appropriate to review the authorized ROEs in other jurisdictions. The comparison is  
8 important because investors are considering the authorized returns across the U.S. and are  
9 likely to invest equity in those utilities with the highest returns. However, when reviewing  
10 this data, it is important to recognize that the authorized ROEs are based on the market  
11 conditions at the time of the rate proceeding. Therefore, while it is reasonable to review  
12 this data, it is important to consider differences in market conditions and the investor  
13 required return at the time that the ROE was authorized.

14 **Q104. What is your conclusion regarding the regulatory framework in South Dakota as**  
15 **compared with the jurisdictions in which the proxy group companies operate?**

16 A104. As discussed throughout this section of my testimony, both Moody’s and S&P have  
17 identified the supportiveness of the regulatory environment as an important consideration  
18 in developing their overall credit ratings for regulated utilities. Considering the regulatory  
19 adjustment mechanisms, many of the companies in the proxy group have more timely cost  
20 recovery through forecasted test years, capital cost recovery trackers and revenue  
21 stabilization mechanisms than Montana-Dakota has in South Dakota. Additionally,  
22 authorized ROEs in South Dakota have been below the average authorized ROEs for

1 vertically integrated electric utilities across the U.S. For these reasons, I conclude that  
2 Montana-Dakota has greater than average regulatory risk when compared to the proxy  
3 group, indicating that the authorized ROE for the Company should be higher than the proxy  
4 group mean/median.

## 5 VIII. CAPITAL STRUCTURE

6 **Q105. Is the capital structure of the Company an important consideration in the**  
7 **determination of the appropriate ROE?**

8 A105. Yes. The equity ratio is the primary indicator of financial risk for a regulated utility such  
9 as Montana-Dakota. All else equal, a higher debt ratio increases the risk to equity investors.  
10 For debt holders, higher debt ratios result in a greater portion of the available cash flow  
11 being required to meet debt service, thereby increasing the risk associated with the  
12 payments on debt. The result of increased risk is a higher interest rate. The incremental  
13 risk of a higher debt ratio is more significant for common equity shareholders, whose claim  
14 on the cash flow of the Company is secondary to debt holders. Therefore, the greater the  
15 debt service requirement, the less cash flow available for common equity holders. To the  
16 extent the equity ratio is reduced, it is necessary to increase the authorized ROE to  
17 compensate investors for the greater financial risk associated with a lower equity ratio.

18 **Q106. What is Montana-Dakota's proposed capital structure?**

19 A106. The Company is proposing to establish a capital structure consisting of 50.392 percent  
20 common equity, 44.34 percent long-term debt and 5.268 percent short-term debt.

1 **Q107. Did you conduct any analysis to determine if this requested equity ratio was**  
2 **reasonable?**

3 A107. Yes. I reviewed the Company’s proposed capital structure relative to the actual capital  
4 structures of the utility operating subsidiaries of the companies in the proxy group. Since  
5 the ROE is set based on the return that is derived from the risk-comparable proxy group, it  
6 is reasonable to look to the average capital structure for the proxy groups to benchmark the  
7 equity ratios for the Company.

8 **Q108. Please discuss your analysis of the capital structures of the proxy group companies.**

9 A108. Specifically, I calculated the mean proportions of common equity, long-term debt, and  
10 short-term debt over the past eight quarters for each of companies in the proxy group at the  
11 operating subsidiary level. Exhibit No. \_\_\_ (AEB-2), Schedule 13 summarizes the actual  
12 capital structures of the operating subsidiaries. As shown, the eight quarter (i.e., Q2/2021  
13 - Q1/2023) average equity ratios for the operating subsidiaries of the proxy group range  
14 from 45.21 percent to 60.61 percent, with a mean of 52.14 percent. Given that Montana-  
15 Dakota’s proposed equity ratio of 50.392 percent is within the range of equity ratios for the  
16 utility operating subsidiaries of the proxy group companies, and in fact is below the average,  
17 I consider its proposed equity ratio to be reasonable.

18 **Q109. Are there other factors to be considered in setting the Company’s capital structure?**

19 A109. Yes, there are other factors that should be considered in setting the Company’s capital  
20 structure, namely the challenges that the credit rating agencies have highlighted as placing  
21 pressure on the outlook for utilities in 2023.

1 For example, Moody’s recently revised its 2023 outlook for the regulated gas and electric  
2 utilities sector to “negative” based on ongoing challenges of inflation, increasing interest  
3 rates and higher natural gas prices. Moody’s noted that these challenges increase the  
4 pressure on customer affordability, and thus face heightened public scrutiny and the ability  
5 of utilities to promptly recover their costs. Moody’s concluded that regulated utilities’  
6 financial metrics are already under pressure with little cushion, and that sustained capital  
7 spending is likely as utilities continue progress towards emissions reductions and net-zero  
8 goals. Moody’s noted that the outlook could return to stable if regulatory support remains  
9 intact, natural gas prices are at a level where utilities are able to recover their fuel and  
10 purchased power costs without delay beyond 12 months, overall inflation moderates,  
11 interest rates stabilize and/or utilities’ aggregate funds from operations-to-debt ratio  
12 remains between 14 and 15 percent.<sup>67</sup> While Moody’s recently noted that natural gas  
13 prices have declined<sup>68</sup>, inflation and interest rates remain elevated.

14 Fitch also highlights similar factors identified by Moody’s as challenging utilities’ outlook  
15 for 2023, stating that the sector faces mounting cost pressures due to “elevated commodity  
16 prices, inflationary headwinds and rising interest costs,” and that some offset in managing  
17 these headwinds include “higher authorized ROEs and the use of tools such as  
18 securitization of under-recovered fuel balances.”<sup>69</sup>

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<sup>67</sup> Moody’s Investors Service, Outlook. “2023 outlook negative due to higher prices, inflation and rising interest rates.” November 10, 2022; Moody’s Investors Service. Outlook, Sector In-Depth. “Inflation, high natural gas prices complicate prospects for supportive rate increases.” November 11, 2022.

<sup>68</sup> Moody’s Investors Service, Sector Comment. “Regulatory risk related to service affordability eases as natural gas prices decline.” March 9, 2023.

<sup>69</sup> Fitch Ratings. “North American Utilities, Power & Gas Outlook 2023.” December 7, 2022, at 1-2.

1 Likewise, while S&P recently revised its outlook for the industry from negative to stable,  
2 S&P continues to see significant risks over the near-term for the industry as a result of  
3 inflation and increased levels of capital spending. Specifically, S&P noted:

4 Despite the improvement in economic data, we expect inflation, rising  
5 interest rates, higher capital spending, and the strategic decision by many  
6 companies to operate with only minimal financial cushion from their  
7 downgrade thresholds to continue to pressure the industry's credit quality.  
8 Throughout 2022 and so far in 2023, the Federal Reserve has consistently  
9 raised interest rates to reduce the pace of inflation. While these actions  
10 appear to have had a positive effect on slowing inflation, there's still been a  
11 modest weakening in the industry's financial measures because of inflation  
12 and rising interest rates. An environment of continuously rising costs tends  
13 to weaken the industry's financial measures because of the timing difference  
14 between when the higher costs are incurred and when they are ultimately  
15 recovered from ratepayers.<sup>70</sup>

16 The credit ratings agencies' continued concerns over the negative effects of inflation,  
17 higher interest rates, and increased capital expenditures underscore the importance of  
18 maintaining adequate cash flow metrics for Montana-Dakota in the context of this  
19 proceeding.

## 20 **IX. CONCLUSIONS AND RECOMMENDATION**

### 21 **Q110. What is your conclusion regarding a fair ROE for the Company?**

22 A110. Based on the various quantitative analyses summarized in Figure 13 and the qualitative  
23 analyses presented in my Direct Testimony, a reasonable range of ROE results for  
24 Montana-Dakota is from 10.00 percent to 11.00 percent. Within that range, I believe that  
25 an ROE of 10.50 percent is reasonable and appropriate. The recommended ROE takes into  
26 consideration the current conditions in capital markets including the high interest rates, and

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<sup>70</sup> S&P Global Ratings. "The Outlook for North American Regulated Utilities Turns Stable," May 18, 2023, at 8.



1 elevated inflationary pressures, both of which increase the cost of capital as well as the  
2 relative business and financial risk of Montana-Dakota as compared to the proxy group.  
3 This ROE would fairly balance the interests of customers and shareholders.

1

**Figure 13: Summary of Results**

<b><i>Constant Growth DCF</i></b>			
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	8.55%	9.70%	10.60%
90-Day Average	8.48%	9.62%	10.52%
180-Day Average	8.50%	9.65%	10.54%
	Min Growth Rate	Mean Growth Rate	Max Growth Rate
30-Day Average	9.07%	9.52%	10.68%
90-Day Average	9.03%	9.50%	10.51%
180-Day Average	9.01%	9.63%	10.45%
<b><i>CAPM</i></b>			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Value Line Beta	11.46%	11.46%	11.45%
Bloomberg Beta	10.87%	10.86%	10.85%
Long-term Avg. Beta	10.41%	10.40%	10.39%
<b><i>ECAPM</i></b>			
Value Line Beta	11.77%	11.76%	11.76%
Bloomberg Beta	11.32%	11.32%	11.31%
Long-term Avg. Beta	10.98%	10.97%	10.96%
<b><i>Bond Yield Risk Premium</i></b>			
	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
Results	10.31%	10.28%	10.27%

2

3 **Q111. What is your conclusion regarding Montana-Dakota's proposed capital structure?**

4 A111. My conclusion is that Montana-Dakota's proposal to establish a capital structure for

5 ratemaking purposes consisting of 50.392 percent common equity, 44.340 percent long-

6 term debt, and 5.268 percent short-term debt is reasonable when compared to the capital

7 structures of the utility operating subsidiaries of the proxy group companies and taking in

1 consideration the effect of inflation and increased capital expenditures on the cash flows,  
2 and therefore should be adopted.

3 **Q112. Does this conclude your Direct Testimony?**

4 A112. Yes, it does.